



SANITATION AND WATER FOR ALL

POLICY BRIEF

Converging crises and potential opportunities: Gender, climate, sanitation and water



Institute for
Sustainable
Futures



SANITATION
AND WATER
FOR ALL



Australian Government
Department of Foreign Affairs and Trade



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Foreword

Climate change is fundamentally reshaping lives, livelihoods, and access to essential resources. While discussions about global climate policy frequently focus on transitioning to new energy sources, the urgent socio-economic impacts of climate change are closely tied to water and sanitation issues. The United Nations has long recognised access to water and sanitation as fundamental human rights, essential for health and dignity—especially for women and girls. Despite global commitments, billions of people still lack access to safe water and sanitation, which worsens vulnerabilities and deepens gender inequalities, including those faced by marginalised peoples within intersecting vulnerabilities such as women with disabilities.

This policy brief underscores the urgent need for incremental and transformative adaptation—approaches that do not merely mitigate climate impacts but actively challenge and change the underlying systemic inequalities that leave so many behind. The Global Goal on Adaptation (GGA) presents a significant opportunity to integrate gender-responsive strategies into climate-resilient water and sanitation policies. However, real progress requires bold action from policymakers, financial institutions, and international bodies to prioritise investment, participation, and accountability in gender-responsive solutions.

Article 7 of the Paris Agreement on the Global Goal on Adaptation that says: **“the global goal on adaptation of enhancing adaptive capacity, strengthening resilience and reducing vulnerability to climate change, with a view to contributing to sustainable development and ensuring an adequate adaptation response in the context of the temperature goal”**

Women and girls are not passive victims of the water crisis; they are central to its solutions. From local communities to global platforms, they lead the way in water stewardship, sanitation innovation, and climate adaptation. Ensuring their voices are heard, their knowledge is valued, and their leadership is supported is not just a matter of justice—it is a necessity for building a more resilient, inclusive and equitable future for all people and planet.

The biggest contribution that high emissions per capita nations can make to gender equality and inclusion efforts related to climate change is to reduce emissions and slow down the process of a changing climate. They can also provide accessible, adequate and flexible finance to support gender-responsive climate adaptation.

As we look ahead to COP30 and beyond, I urge decision-makers to embrace the recommendations outlined in this policy brief. The time for action is now. We must work together to ensure that climate-resilient water, sanitation and hygiene services leave no one behind, delivering on the promise of gender equality, dignity, health, and security for all.



Nigar Arpadarai

Climate High-Level Champions
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Foreword

“The climate crisis is a water crisis, and its impacts are neither neutral nor evenly distributed. Across the world, increasing water scarcity and unpredictability, intensified by climate change, disproportionately affect women and girls. As primary providers of water for their households and communities, they bear the brunt of inadequate access, greater risks of violence and limitations on the rights to a healthy environment, education, and economic independence. Without urgent action, these inequalities will deepen, threatening both gender equality and the resilience of entire communities.

At UNFCCC COP29, over 69 parties endorsed the Declaration on Water for Climate Action, committing to three key objectives: promote dialogue and partnerships; strengthen the generation of scientific evidence; and enhance water-related climate policy actions. The Declaration recognizes water as central to advancing climate action and aims to strengthen global cooperation on water security and addressing climate-related water challenges by 2030.

This policy brief builds on the Declaration’s objectives, emphasizing the need for gender-responsive approaches to water security and sanitation as essential pillars of climate adaptation. Ensuring access to safe water and sanitation is not just a matter of infrastructure, it is about equity, dignity, and survival.

As a partner of the Race to Resilience campaign, Sanitation and Water for All (SWA) plays a key role in advancing solutions that address water security while prioritizing gender equality. In contributing to the campaign’s goal of increasing the resilience of 4 billion people by 2030, SWA mobilizes multi-stakeholder partnerships and drives policy change to ensure climate-resilient water, sanitation, and hygiene (WASH) services can reach everyone.

Without safe sanitation, the most vulnerable remain at risk. This policy brief provides a roadmap for embedding gender equality into concrete commitments and action plans within the UNFCCC process, including the Global Goal on Adaptation”.



Michelle Bachelet

Former President of Chile
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Voice from the Forefront of Policy: An SWA Global Leader's Perspective

As someone who has dedicated a lifetime to advancing human rights, gender equality, and the dignity of all people, the convergence of climate change, gender, and access to water and sanitation holds deep personal significance for me.

My own journey – from experiencing exile as a young woman, to serving as Chile's first female President, to leading UN Women and acting as United Nations High Commissioner for Human Rights – has shown me that justice is hard-won, and its gains require constant protection and renewal in the face of evolving challenges.

From my earliest days in public service, especially at the Ministry of Health, I have seen how expanding opportunity for girls can transform societies. Like many women, I have felt the responsibility to care for and empower others at every level, from family to national policy.

Today, climate change stands among the greatest threats our world has known. Its effects are neither abstract nor remote but felt daily, often most harshly by women and girls – especially those facing barriers imposed by existing inequalities.

Water stress, food insecurity, and extreme weather shape the daily lives of millions, yet women's and girls' voices are too often excluded from decision-making. We cannot accept a world where the pain of inaction falls chiefly on the most vulnerable, and where half of humanity's insight and leadership go unrealized.

This Policy Brief highlights these crucial interconnections and stresses that adaptation will neither be effective nor just if it overlooks the needs, agency, and rights of women and girls.

My experience – whether advancing Chile's social protection systems, establishing a Ministry for Women and Gender Equality, or advocating for human rights globally – has shown me the transformative effect of including women in decision-making, listening to those most directly affected, and making justice central to policy. →

The recommendations presented here go beyond technical guidance – they call for global solidarity and shared responsibility. Those countries most responsible for this crisis bear a particular duty to act – not only by reducing emissions but also by ensuring finance and technology reach those with the greatest needs. Meaningful change demands breaking down silos, fostering inclusive leadership, and embedding gender equality and human rights into all aspects of climate action.

As we look to COP30 and beyond, I hope this Policy Brief inspires determination and compassion. Let us not settle for adaptation alone; let us work together for a resilient, just, and inclusive future. Every woman and girl who leads through adversity, every voice raised for justice and dignity, moves us closer to the world we strive to build.

This Policy Brief offers clear solutions at the intersection of climate, gender, and water and sanitation. I urge policymakers to use this evidence, act on it, and ensure every step toward climate resilience also advances gender equality and the human right to water and sanitation. For me, this is more than policy – it is profoundly personal.

Executive Summary

Climate change is intensifying water and sanitation^b challenges with disproportionate impacts on women and girls, especially in least developed countries, and missed opportunities to benefit from their leadership. Integrating gender, water and sanitation into climate adaptation strategies is a pathway towards transformative and more effective adaptation.

- Access to water and sanitation is a basic human right with the imperative to ensure that no one is left behind.^{2,3} Access to secure water supply and sanitation services are key determinants of community resilience to climate change.
- Globally, we are far behind on the Sustainable Development Goal (SDG) targets for water and sanitation. Achieving the SDGs by 2030 requires sixfold and fivefold increase in current rates of progress respectively.¹
- Marginalized groups, including women and girls, face disproportionate negative impacts (physical, psychological, educational, economic, and social) due to poor water and sanitation^{3,4} and climate change.⁵
- In many cultures, women are the managers of household level water and sanitation because of their traditional gender roles. This includes water collection, childcare, cleaning and cooking responsibilities.⁶ Social norms, and gendered cultural expectations have a direct impact on how national institutions and sectoral programs respond to gender inclusion. It's important to acknowledge this—not as a limitation, but as a reality that needs tailored, context-sensitive approaches.
- The importance of connections between gender equality, resilience, water and sanitation must be enshrined in national law and policy including global climate change instruments and commitments. Governments are urged to codify gender-responsive, climate-resilient water, sanitation and hygiene approaches via legislation, decrees, or formal policies. Climate



Figure 1. Image of woman filling water bottle. Source: UN Climate Change Conference Baku – COP 29

change laws and policies should incorporate water and sanitation adaptation measures and gender equality targets. By making the “gender-WASH-climate” nexus a legal requirement, countries ensure these considerations are not optional add-ons but mandated elements of climate and water governance.

- Despite women's unique expertise and knowledge about water and sanitation, they are often left out of the conversation for planning, implementation and management of water and sanitation activities and climate-related adaptations.⁷ Hence the opportunity for change.

Bringing together the nexus of climate change, gender equality, and water and sanitation opens up opportunities for more transformative action and impacts across all three domains. Aligned with gender-transformative water and sanitation strategies,⁸ transformative adaptation involves fundamental shifts in societal structures, economic systems, and human behaviour to address climate change impacts and build resilience.⁹ Both incremental and transformative adaptation are needed to address access to water and sanitation across diverse regions and contexts.

^b This policy brief focuses on water and sanitation with some references to hygiene. Other similar documentation uses water, sanitation and hygiene (WASH), which more specifically includes aspects of personal hygiene such as handwashing, bathing, and menstruation.

Relevance to key climate stakeholders

This policy brief has the following relevance to key climate and water security stakeholders

Paris Agreement and UNFCCC Bodies

- The brief supports the Global Goal on Adaptation (GGA), the UAE Framework for Global Climate Resilience and the water thematic target.
- Aligned to the UNFCCC Gender Action Plan, it highlights gender-differentiated climate impacts and sector-specific responses.
- Informs the Adaptation Committee, the Least Developed Countries Expert Group (LEG), and the Nairobi Work Programme, on integration of water and sanitation and gender into climate adaptation.

National Stakeholders

- The recommendations support countries to integrate gender-responsive water and sanitation priorities into National Adaptation Plans (NAPs) and Nationally Determined Contributions (NDCs).
- Practical guidance for ministries of environment, health, gender, and infrastructure, and national climate teams, to reflect intersectional vulnerabilities on gender, water and sanitation.
- Provides an evidence base to support climate finance from multilateral funds for initiatives that address multiple objectives of gender equality and meeting basic needs for water-supply and sanitation to build community resilience to climate change.

Implementing partners and development agencies

- The brief offers actionable entry points for UN agencies, NGOs, and donors supporting gender-responsive climate adaptation and water and sanitation program design and monitoring.

Climate finance institutions

- Provides Green Climate Fund (GCF), Adaptation Fund, and other multilateral and bilateral climate financiers sector-specific guidance to review and shape project proposals that meet gender and resilience criteria and promote inclusive, transformative adaptation.

As the international community advances the implementation of the Global Goal on Adaptation (GGA) by preparing measurement frameworks, guiding updated National Adaptation Plans (NAPs) and revised Nationally Determined Contributions (NDCs), negotiations and agreements, there is an urgent need to better integrate gender, water and sanitation considerations into these initiatives.

This policy brief is intended for a broad range of climate stakeholders, including UNFCCC bodies, national policymakers and climate teams, climate finance institutions, and development partners. It examines the intersections between gender equality, water, sanitation, and climate resilience, and provides evidence-based recommendations to support more inclusive planning, investment, and implementation.

Recommendations and policy asks

Advancing existing global commitments and recognising the connections between gender equality, water and sanitation, and climate adaptation can ensure synergies are effectively leveraged.

1. Recognize the significance of interlinkages between gender, intersectionality and water and sanitation in climate adaptation strategies. The nexus of water and sanitation, climate, and gender highlights both current challenges of poor, climate-impacted services as well as viable pathways towards transformative climate adaptation. Adopt adaptation strategies that address water and sanitation as fundamental underpinnings of community resilience and apply inclusive, gender-responsive approaches and monitoring to support women and girls to contribute and ensure their adaptation needs are met.

2. Foster multi-stakeholder collaboration to overcome fragmentation and siloes. Build on multi-stakeholder platforms and dialogue to bring together water, sanitation, gender, and climate specialists to develop integrated policy and strategies. Support cross-sectoral coordination mechanisms at national and sub-national levels, and bringing gender concerns into water-climate discussions and including water and sanitation in gender-climate discussions. Engage women's organizations and grassroots movements to ensure the influence of diverse perspectives.

3. Build institutional capacity to improve inclusive water and sanitation services in least developed nations (those with inadequate water and sanitation service levels). Strengthen national institutions' capacity to deliver gender-responsive climate-resilient water, sanitation, and hygiene services. Ensure meaningful participation of women and marginalised groups in climate, water and sanitation decision-making. Review and update NAPs and NDCs to explicitly address gender-responsive water, sanitation, and hygiene needs.

4. High-emitting countries should reduce emissions to minimise impacts on women and girls with inadequate access to water and sanitation which are exacerbated by climate change. The most significant contribution that high incomes countries can make to reducing the disproportionate impact on women and girls with poor access to water and sanitation is to reduce emissions and slow down the process of a changing climate. The current trajectory of global warming will cause severe drought, water scarcity and flooding impacts on water and sanitation services in least developed countries, denying women and girls of their basic human rights and worsening existing gender inequalities and vulnerabilities.

5. Improve gender-responsive research and individual-level monitoring and use these to support accountability. Develop gender-disaggregated metrics and indicators to track the intersection of climate impacts, water security, and sanitation access. Establish robust monitoring systems that prioritise individual measurement (not just household level) to capture gender-differentiated impacts of climate change on water, sanitation, and hygiene, as part of the water thematic target of the Global Goal on Adaptation. Prioritize research and innovation by investing in studies on gender-specific climate impacts on water security and sanitation and hygiene, including understanding loss and damage, and use the insights to drive further gender-responsive action.

6. Enhance gender-responsive (with the goal of transformative) climate finance for water and sanitation. Scale up dedicated climate finance for gender-responsive water and sanitation services, by establishing gender-responsive water and sanitation components in readiness and adaptation planning grants, and positioning gender-responsive water and sanitation as transformative, paradigm-shifting interventions. Create direct access modalities that enable women-led organizations to access climate finance, implementing targeted calls or windows for gender and water and sanitation in multilateral climate financing as well as bilateral funding institutions. At the same time implement large-scale government led initiatives to improve water and sanitation services. Address the funding gap for gender-responsive water infrastructure, particularly in rural and informal urban areas.

→ **As national delegates and leaders** prepare for climate negotiations and agreements, it is imperative to address water and sanitation in least developed country policies and commitments to avoid significant impacts on women and girls from poor services, which are exacerbated by climate change

→ **As strategy leaders and bodies** lead efforts to set an enabling policy environment, set measurement standards and provide guidance, prioritise improved access to water and sanitation, whilst integrating gender-responsive strategies and monitoring.

→ **As funders** review opportunities to strengthen climate adaptation, supporting women and girls to lead on improved climate resilient water and sanitation services provides multiple benefits.

I. Context and Urgency

The outcomes of the 28th Conference of the Parties to the UN Framework Convention on Climate Change (COP28) in 2023 in Dubai have created unprecedented momentum for addressing the interconnected challenges of climate change adaptation, water, sanitation and gender equality.

Access to safe, affordable, and reliable water and sanitation are basic human rights^{2,3} and are also recognized as "critical to adaptation" within the Global Goal on Adaptation (GGA) framework.¹⁰ The GGA calls for *"significantly reducing climate-induced water scarcity and enhancing climate resilience to water-related hazards towards a climate-resilient water supply, climate-resilient sanitation and access to safe and affordable potable water for all"*¹⁰ by 2030 and progressively beyond. This marks a significant milestone in global climate policy and creates new opportunities for addressing the gendered dimensions of climate impacts on water security and sanitation.

However, current approaches to implementing these commitments often fail to adequately address the needs of women, girls and other marginalized community members. The GGA framework's emphasis on *"adaptive social protection measures for all"* and recognition of *"traditional knowledge, Indigenous Peoples' knowledge and local knowledge systems"* provides a foundation for more inclusive approaches but requires targeted attention to gender equality to ensure effective implementation.

Transformative adaptation is emerging as a useful approach to help address the complex intersection of climate change, gender equality and water and sanitation. Transformative adaptation emphasises the need to address underlying structural inequalities while building climate resilience.^{9,11} This approach recognises that effective adaptation must transform existing social, economic, and political structures that perpetuate gender inequalities and vulnerabilities to climate impacts. A transformative adaptation agenda means supporting both incremental adaptation (that doesn't reinforce existing inequities) and pursuing opportunities to create the conditions for transformation.

BOX 1. Gendered water and sanitation issues¹

Progress on the water and sanitation-based SDGs lags far behind and achieving the SDGs by 2030 requires sixfold and fivefold increase in current rates of progress respectively. Climate change makes progress on these goals harder, with women and girls most impacted.

2.2 billion people lack access to safely managed drinking water; **3.5 billion** people lack access to safely managed sanitation (2022).

In 7 out of 10 households, **women and girls** are primarily responsible for water collection.

Over half a billion people share sanitation facilities between households; **women** are more likely to feel unsafe using these facilities.

A lack of handwashing facilities disproportionately impacts **adolescent girls and women**, especially those responsible for child care and domestic chores.

Inadequate water and sanitation services prevent **adolescent girls and women**, and those who menstruate, from managing their periods safely and privately.

Climate change causes water and sanitation service disruptions, damages infrastructure, reducing water security and sanitation access which disproportionately impacts women and girls who carry and manage water in the home

School attendance is negatively impacted by inadequate WASH facilities, especially for girls

Aims and Objective of this Policy Brief

This policy brief provides evidence on the importance of integrating gender considerations into climate negotiations and agreements with particular focus on water and sanitation to strengthen incremental and transformative adaptation. The brief concludes with three applications:

1. Integrating gender, water and sanitation in adaptation and mitigation efforts
2. Recognizing gender, water and sanitation economic and non-economic losses
3. Financing support to address gender equality in water and sanitation adaptation programs



Figure 2. Tahmina Akhter, 16, is a peer leader at Child Protection Community Hub in Cox's Bazar, Bangladesh. Six months ago, she was almost married off. But she managed to stop it with the help of a volunteer at the Child Protection Community Hub. **Source name:** Rashad Wajahat Lateef

BOX 2.

Integrating gender considerations^{8,12}

The integration of gender considerations within activities, programs and policies can be classified as gender sensitive, responsive or transformative. This same framing holds for both water and sanitation⁸ and climate adaptation¹² interventions. Broadly, the levels increase in their ambition for systemic change:

- **Gender-sensitive** – Acknowledge and work within traditional gender norms, structures and dynamics.
- **Gender-responsive** – Consider and respond to gender norms, structures, and dynamics.
- **Gender-transformative** – Actively seek to transform gender norms, structures and dynamics to advance gender equality for all.

While a gender-transformative approach is the ultimate goal to support climate adaptation, gender-responsive approaches are a recommended minimum commitment by the GGA and the Gender Action Plan.

^c **Climate change mitigation** refers to human interventions to reduce greenhouse gas emissions or enhance the sinks that remove greenhouse gases from the atmosphere. This involves addressing the root causes of climate change by limiting or preventing greenhouse gas emissions. Examples include transitioning to renewable energy sources, improving energy efficiency, protecting and restoring forests, and developing carbon capture technologies.^c

Climate change adaptation refers to the process of adjustment to actual or expected climate change and its effects. This involves modifying natural or human systems to moderate harm or exploit beneficial opportunities arising from climate change. Examples include improving water and sanitation systems to withstand extreme weather events, building sea walls to protect against rising sea levels, updating building codes for extreme weather events, and creating early warning systems for climate hazards.

The key distinction is that mitigation focuses on reducing the causes of climate change (greenhouse gas emissions), while adaptation focuses on managing the unavoidable consequences of climate change that are already occurring or expected to occur. The IPCC emphasises that both approaches are necessary and complementary – mitigation helps limit future climate change, while adaptation helps societies cope with the climate changes that cannot be avoided due to past and current emissions already in the atmosphere.

II. Rationale: Evidence-based interconnections between climate, gender, water and sanitation

Addressing gender, climate, water and sanitation requires an understanding of gender-differentiated exposure, vulnerability, impacts and opportunities. In this section, we outline the evidence for the triple nexus of climate adaptation, gender equality, and water and sanitation.

A. Gender-differentiated and intersectional impacts of inadequate water and sanitation

Women and girls face unique vulnerabilities related to water, sanitation, and hygiene, with profound implications on physical, psychosociological, educational, and economic wellbeing.¹³ These vulnerabilities are primarily related either to the unique needs of women and girls (e.g. urination, menstruation, pregnancy, and menopause) and to the traditional role of women and girls in managing household water, sanitation and hygiene responsibilities (e.g. water collection, childcare, cleaning, and cooking).⁶

- **Health impacts:** Over 800,000 women die annually due to insufficient access to safe water, sanitation and hygiene.¹⁴ Vulnerable populations, including women, are at higher risk of only being able to access poor quality and contaminated water.^{15,16} Women also have higher rates of skin diseases, cancer, anaemia, and fertility issues than men with poorer quality water.^{17,18} Food security and nutrition are also directly related to water security, and women and girls experience the impacts of food insecurity more acutely.¹⁹ The physical burden of water collection also leaves women susceptible to physical injuries, uterine prolapse and miscarriage.²⁰⁻²²
- **Psychosocial and spiritual impacts:** Water insecurity^{23,24} and poor sanitation²⁵ have both been shown to increase stress and depression for women.²⁶ Lack of access to adequate and appropriate water and sanitation facilities increases women's risk of harassment and sexual violence²⁷⁻²⁹ and can lead to conflict.²⁶ Women are also often spiritual stewards of water.³⁰

- **Economic and productivity impacts:** Women are disproportionately affected by water costs, especially in areas relying on private providers. Data from 22 countries shows women are more likely to struggle with paying water utility bills.¹⁴ Limited water access restricts women's economic opportunities and deepens poverty cycles.¹⁴ Women and girls spend between three and six hours daily collecting water in many developing countries. This time poverty reduces opportunities for education,^{31,32} employment and other productive activities.³³

- **Sextortion and corruption in water access:** Sextortion related to water is a pervasive yet underrecognized form of corruption that disproportionately affects women and girls in parts of Africa and Asia. This form of corruption emerges at the intersection of gender inequality, power imbalances in water management, and worsening water scarcity due to climate change (Tallman et al, 2022). Water related sextortion remains underreported due to stigma, fear of retaliation, and lack of legal recognition. Few countries explicitly recognize sextortion as a form of corruption or sexual violence. To prosecute sextortion, in most countries, law enforcement officials continue to rely on a patchwork of legislation that does not cover all the ways in which sextortion manifests itself (France, 2022 & Merkle et al, 2023).

B. Exposure and vulnerabilities of women and girls to climate impacts on water and sanitation services

Emerging evidence highlights that these water, sanitation and hygiene vulnerabilities are exacerbated in a changing climate³⁴⁻³⁶ and that women are more vulnerable to the impacts of climate change³⁷⁻³⁹ and disasters.⁴⁰ Importantly, the majority (90%) of climate-related disasters are linked to water including events such as floods, droughts and storms.

Climate impacts on water supply services

- **Droughts and heat add to women's water carrying burden:** The increasing frequency and severity of droughts significantly affects water availability for domestic use, a burden that falls disproportionately on women and girls as primary water collectors in many communities.¹⁴ Reduced water availability during droughts concentrates existing contaminants including pathogens and heavy metals.⁴¹ Rising temperatures increase household water needs, particularly for drinking, cooking, and hygiene, increasing the work load for water collectors. This increased work and travel time also risks women and children's safety and health from longer, more frequent, water collection trips.
- **Flooding and storms disrupt safe water access, increase disease and care responsibilities:** Flooding and extreme weather events regularly damage water infrastructure, disrupting access to safe water sources. Storm and flood events frequently contaminate water sources with pollutants and pathogens.⁴¹⁻⁴³ Limited treatment options during disasters and increased water-borne disease risks create additional burdens for women, who are often primary caregivers when family members fall ill.

Climate impacts on sanitation services

- **Droughts and water shortages reduce sanitation access, privacy and dignity:** A lack of water for use in sanitation systems can cause infrastructure damage and lead to reduced functionality and safety in sanitation facilities.^{44,45} Women and girls, who have specific needs for privacy and dignity in sanitation facilities, face increased vulnerability when facilities cannot be properly accessed and maintained. This is particularly problematic in public facilities and institutional settings such as schools and healthcare centres.
- **Flooding and sea-level rise introduces health risks:** Flooding regularly damages sanitation facilities and causes pit latrines to overflow, creating immediate health risks and longer-term environmental contamination.^{46,47} Rising groundwater levels, particularly in coastal areas, affect the functionality of pit latrines and septic systems⁴⁸, exacerbated by sea-level rise.

Climate impacts on hygiene practices

- **Extreme weather events disrupt hygiene and menstrual hygiene access:** Climate-related disasters and extreme weather events frequently disrupt supply chains for essential hygiene products such as menstrual products, soap, and cleaning supplies, with price increases making these items unaffordable for many households.⁴⁹ Women and girls from marginalized communities are particularly affected, as they often lack the financial resources to stockpile supplies or access alternative sources during disruptions.⁵⁰ Schools, healthcare facilities, and public spaces may struggle to provide appropriate hygiene facilities during water shortages or after extreme weather events.
- **Droughts and water scarcity impact household hygiene management:** Water scarcity severely impacts the ability to maintain essential hygiene practices. When water becomes scarce, households often prioritize drinking and cooking over handwashing and personal hygiene, leading to increased health risks.⁷ Women and girls, who bear primary responsibility for household hygiene management, must make difficult decisions about water allocation between competing needs. The situation becomes particularly challenging during menstruation, when additional water is needed for personal hygiene.

C. Opportunities for women's leadership roles in adaptation in water and sanitation services

Women and marginalised groups are not merely victims of climate impacts on water and sanitation systems – they are vital agents of change with unique knowledge and capabilities essential for building community resilience, keeping communities healthy, and are human rights holders. Research shows that people who have experienced marginalisation usually possess deep understanding of what solutions will work in their contexts, though they often need support to implement these solutions^{38,51} – a process of transformative adaptation.

- **Women hold knowledge and expertise:** As primary water managers at the household level, women often hold deep knowledge about water resources, seasonal changes, and management practices that can inform climate adaptation strategies.^{52,53}

Women also frequently develop innovative coping mechanisms that can be scaled up into broader solutions.⁵⁴ This knowledge, combined with their daily experience managing water scarcity and quality issues, makes them uniquely qualified to contribute to water, sanitation and hygiene system planning and implementation.

- **Women's meaningful participation, leadership and voice are invaluable:** Women play important and much needed roles in the water and sanitation governance and management.^{38,55-57} This includes voluntary positions and in the formal workforce. While women's participation is often lower than men in many formal contexts, their involvement can be associated with improved governance and adaptation.
- **Women are strong community influencers and drivers of change:** Furthermore, women and marginalized groups are key drivers of behavioural change in water use and sanitation practices.⁵⁸ Their influence extends beyond individual households to community-wide practices and norms and through women's focused self-help, lending and support groups.⁵⁹

As a caution, engaging women within transformative adaptation must be done carefully to avoid adding additional burden to women.^{57,60} This engagement must go beyond token consultation to enable genuine co-creation of solutions. Care must be taken to engage women in thoughtful ways with attention to childcare, time of day and even distances to travel. Through meaningful participation in planning and implementation, women and marginalized groups can help ensure that water, sanitation and hygiene interventions are both technically sound and socially appropriate, increasing the likelihood of long-term success and community ownership.

To leverage these strengths effectively, transformative adaptation approaches must begin with careful assessment of social relations through gender and power analysis, vulnerability and strengths-based assessments, and research on coping and adapting mechanisms. These assessments help reveal the interconnected social, technical, and infrastructural factors that shape water, sanitation and hygiene systems and identify opportunities for meaningful engagement.

BOX 3.

Water and sanitation interventions as enablers for mitigation efforts

Water and sanitation systems can play a key role in climate change mitigation efforts. Through improved management of water bodies and water, wastewater and sanitation services, emissions can be reduced significantly while delivering multiple social, economic and environmental benefits that enhance the value of climate finance investments.

Sanitation systems contribute significantly to emissions:

Emerging research indicates that sanitation systems contribute substantially more to methane emissions than previously estimated—approximately 12% of global methane emissions, with potentially higher actual figures due to underreporting.^{61,62} Despite this significant impact, sanitation has been largely overlooked in climate policies, with only 35% of countries addressing sanitation-related methane mitigation in their NDCs, primarily focusing on centralised wastewater treatment while ignoring non-sewered systems prevalent in developing regions.⁶³

Many mitigation efforts are dependent

on water: Water availability and effective management are essential for implementing many key mitigation measures, including supporting the clean energy transition and facilitating both natural and artificial removal of carbon dioxide from the atmosphere.⁶⁴

III. Applications

Application 1: Integrate gender-responsive water and sanitation initiatives in climate adaptation efforts

Guided by the the UAE Framework for Global Climate Resilience and the Gender Action Plan, this first application focuses on integrating gender considerations into water and sanitation adaptation and mitigation efforts. The evidence summarized above provides a practical foundation not only for the formulation of NAPs and NDCs, but also for the implementation of the UAE Framework and the monitoring of progress under the GGA. By identifying where gender, water, sanitation, and climate intersect in national policy, planning, and finance documents, the analysis can inform the development of gender-responsive programming and strengthen national monitoring and evaluation systems aligned with the UAE Framework's thematic targets.

Adaptation efforts are not only led by climate policy but also water and sanitation policy. Gender-climate considerations need to be better integrated into water and sanitation policies, strategies and plans. Legal and administrative instruments to operationalise international commitments on gender and adaptation must be prioritised. The Paris Agreement's Global Goal on Adaptation explicitly prioritises climate-resilient water supply and sanitation for all by 2030, and the UNFCCC Gender Action Plan calls for integrating gender equality into climate action. Governments should reflect these aims in their Nationally Determined Contributions (NDCs) and National Adaptation Plans (NAPs) – for example, by embedding gender-responsive WASH targets – and back them with enforceable directives and guidelines. Such alignment ensures that global promises on gender, WASH, and climate translate into accountable national action.

Recent guidance has highlighted opportunities to integrate gender considerations into NAPs/ NDCs (Guide *et al.*, 2023; NDC Partnership, 2019; Network and UNFCCC, 2019; WaterAid, 2025), to integrate water and sanitation into NAPs/NDCs,⁶⁷ and to integrate climate resilience into water and sanitation policies.⁶⁸

The GGA Framework identifies four phases in an iterative adaptation cycle: assessments; planning; implementation; and monitoring, learning and evaluation (MEL). Strategies for integrating gender into water and sanitation adaptation for each of the phases are summarized below drawing on existing guidance and resources.^{65,66}

Means of Implementation

From a gender-WASH perspective, Means of Implementation (Mol) encompasses the practical mechanisms, tools, and resources needed to operationalise gender equality within water, sanitation, and hygiene programs. While formal Mol discussions often centre on capacity development, technology transfer, and financing, a comprehensive gender-WASH approach extends beyond these elements. It includes gender-responsive budgeting that ensures equitable resource allocation; targeted capacity strengthening that empowers women and marginalised groups as decision-makers and technical experts; institutional reforms that embed gender considerations into governance structures; and monitoring systems that track gender-specific outcomes. Effective Mol in this context also involves creating inclusive policy frameworks that address women's specific needs and barriers to water and sanitation access, while establishing accountability mechanisms to ensure commitments translate into meaningful action at all levels.



Figure 3. Women and girls walking with their buckets to fetch water in the inundated region of Geokaloi village in the Southern Pakistani province of Sindh. Between June and October 2022, floods in Pakistan claimed the lives of 1,739 individuals. **Source name:** Vlad Sokhin

Domain	Activities (adapted from ^{65,66})
Assessments (Impact, Vulnerability, and Risk)	• Identify and include gender-specific expertise on water and sanitation efforts. This could include multi-sectoral networks or stakeholder groups focused on gender, water and sanitation. • Conduct an initial review of literature and past/ongoing mitigation and adaptation efforts focusing on water and sanitation and gender integration. • Examine existing datasets related to gender and climate-related vulnerabilities and impacts in water and sanitation. Identify data deficiencies. • Investigate the factors contributing to unequal representation and the involvement of women and marginalized groups in decision-making in water and sanitation. • Conduct robust intersectional and inclusive gender analysis paying specific attention to additional cultural, social, economic and ethnic factors which shape the gender structures, roles and norms in water and sanitation activities. Include men and boys in the analysis.
Planning	• Ensure that the relevant gender ministries and women's organizations are engaged in the planning and implementation stages. • Prioritize capacity strengthening on gender-responsive water and sanitation for key stakeholders and implementers. • Facilitate coordination across sectors (water, sanitation, gender and climate resilience) and include a variety of stakeholders in the consultation process. • Employ inclusive and participatory planning methods to prioritize adaptation strategies and involve communities in the planning process. • Apply gender-responsive budgeting process to planning and resource allocation. • Fully integrate disaggregated data and gender analysis findings into the development of implementation plans, including decisions on targeting and approach. • Adopt a do-no-harm programming perspective and identify resources or referral pathways and reporting mechanism for cases of gender-based violence, abuse or harassment.
Implementation	• Prioritize implementation 'pause and reflection' sessions to refine and strengthen strategies with external facilitators. • Continue to strengthen capacity in gender-responsive water and sanitation for implementation teams including new staff onboarding. • Continue to foster coordination and sectoral knowledge sharing. • Continue to address practical issues that could hinder equal participation and benefits from adaptation, considering gender differences in roles, responsibilities, mobility, and access to resources and information. • Place more emphasis on developing institutionalized, transparent approaches for measuring progress—especially when it comes to leadership of women.

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Domain	Activities (adapted from ^{65,66})
Evaluation (Monitoring, Evaluation, and Learning)	• Collaboratively develop gender-responsive indicators to track and measure progress (refer to Box 4 for suggested indicators), including individual-level measurement • Engage gender experts in the creation of monitoring and evaluation frameworks, leveraging and extending from existing systems and data. • Incorporate measures of gender equality and women's empowerment into adaptation evaluation processes. • Form gender-equitable teams to ensure accurate and impartial data collection and analysis. • Prioritize ongoing qualitative assessments alongside larger quantitative data gathering, including to ensure individual-level measurement. • Ensure the timely gathering, analysis, use and reporting of disaggregated data by gender, age and climate risk zone, which requires shifts to facilitate individual level measurement. • Actively assess and report the differentiated impacts of adaptation initiatives on women, men, and marginalized groups.
Policy asks	• Recognize the significance of interlinkages between gender water and sanitation in climate adaptation strategies. • Foster multi-stakeholder collaboration to overcome fragmentation and siloes. • Build institutional capacity to improve inclusive water and sanitation services in least developed nations. • High-emitting countries should reduce emissions to minimise impacts on women and girls with inadequate access to water and sanitation which are exacerbated by climate change. • Improve gender-responsive research and monitoring, including at individual level, and use these to support accountability. • Enhance gender-responsive climate finance for water and sanitation

Figure 4. Marovoay, Boeny - Secondary School Antanimora. UNICEF's goals include protecting children, expanding girls' education and improving learner outcomes. All in a safe and protective environment. **Source name:** Tsiory Andriantsoarana



BOX 4. Recommended indicators

Water and sanitation systems can play a key role in climate change mitigation efforts. Through improved management of water bodies and water, wastewater and sanitation services, emissions can be reduced significantly while delivering multiple social, economic and environmental benefits that enhance the value of climate finance investments.

Domain	Activities (adapted from the work of the NAP Global Network, the Least Developed Countries Expert Group, and UNFCCC's Adaptation Committee) ^{65,66}
Assessments	• Proportion of individuals participating in assessments; by sex, age, disability and climate risk zone ⁷⁰
Planning	• Proportion of individuals (and schools and health care facilities) participating in climate mitigation and adaptation planning, policy formulation, and implementation; by sex, age, disability and climate risk zone ⁷⁰
Implementation	• Proportion of individuals with access to climate change adaptation information, training, and capacity-building initiatives; by sex, age, disability and climate risk zone ⁷⁰ • Proportion of individuals who have access to climate adaptation funding or resources; by gender, age and climate risk zone ⁷⁰ • Proportion of climate-resilient sanitation infrastructure that is designed with gender-specific needs ⁷⁰ • Proportion of climate-resilient water infrastructure that is designed with gender-specific needs ⁷⁰
Evaluation	Water • Proportion of individuals using safely managed drinking water services; by sex, age, disability and climate risk zone ⁷¹⁻⁷³ • Proportion of households where women and girls are in charge of water collection, by median time to source; by age, disability and climate risk zone ^{72,73} • Time spent collecting water for household consumption; by sex, age, disability and climate risk zone ⁷³ • Proportion of population who felt unsafe collecting water in the past 12 months; by sex, age and climate risk zone ^{69,72} • Proportion of individuals who have experienced water insecurity in the last four weeks; by sex, age, disability and climate risk zone ⁶⁹ • The number of individuals participating in functional water associations, water governance bodies, utilities or committees as a result of the project; by sex, age, disability and climate risk zone ^{72,73} • Proportion of population exposed to hazards in the past 12 months whose water source was damaged or subject to shortages; by sex of the person in charge of water collection, age, disability and climate risk zone ⁷²

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Domain**Activities** (adapted from the work of the NAP Global Network, the Least Developed Countries Expert Group, and UNFCCC's Adaptation Committee) ^{65,66}**Evaluation****Sanitation**

- Proportion of individuals using safely managed sanitation services; by sex, age, disability and climate risk zone ⁷¹⁻⁷³
- Proportion of individuals living in households where sanitation facilities are poorly illuminated, lack a lock, or are shared with other households; by sex, age, disability and climate risk zone ⁷²
- Proportion of individuals who reported that the sanitation location they used most often in the last four weeks was clean, private, and safe; by sex, age, disability and climate risk zone ⁶⁹

Hygiene

- Proportion of individuals using handwashing facility with soap after defecation; by sex, age, disability and climate risk zone ⁷¹⁻⁷³
- Proportion population exposed to hazards in the past 12 months who encountered barriers to accessing hygiene products as a result; by sex, age, disability location and displacement ⁷²
- Proportion of individuals who menstruate who changed their menstrual materials in a space at home was clean, private, and safe during their last menstrual period; by age, disability and climate risk zone ⁶⁹

Across-Sectors

- Proportion of individuals who have experienced an increase in gender equality outcomes (e.g. Equality Awareness, Self-efficacy, Mobility, Social Capital, Household Respect, Social Capital, Wellbeing); by sex, age, disability and climate risk zone ⁷⁴
- Proportion of women in environmental decision-making positions in government, specifically heads of health, water/sanitation, and environmental ministries; by sex, age, disability, climate risk zone and sector ⁷³

Application 2: Recognise gender, water and sanitation economic and non-economic losses

Climate change disproportionately affects women and girls, causing both economic and non-economic losses. Economic burdens include direct costs such as increased water expenses and indirect costs such as lost income opportunities. ⁷⁵ Non-economic losses encompass physical and mental health impacts, social and cultural disruptions, and compromised security and safety. ^{76,77}

Women experience heightened vulnerability due to unequal power dynamics and physical susceptibility, leading to challenges such as displacement, interrupted education, and gender-based violence. ⁷⁵ Climate-induced extreme weather events negatively impact women's mental health and wellbeing, particularly in the Global South. ^{76,77} The climate-violence nexus further exacerbates these issues, with women and children facing sexual violence, domestic abuse, and exploitation in disaster contexts. ^{76,77} Water-related work significantly affects women's lives, necessitating monitoring and consideration in policies and programs. ⁷⁸

BOX 5. Fund for responding to Loss and Damage⁷⁹

The Fund for responding to Loss and Damage (FRLD) represents a significant milestone in addressing climate justice for developing countries disproportionately affected by climate change impacts. Established through decisions at COP27 and operationalized at COP28, the Fund provides financial assistance to developing countries that are particularly vulnerable to climate change effects, including both economic and non-economic losses from extreme weather events and slow onset disasters.

The Fund's structure acknowledges global inequalities inherent in climate vulnerability, where the countries least responsible for greenhouse gas emissions often face the most severe consequences. While not explicitly mentioned in the document, the Fund implicitly addresses issues affecting marginalised populations who typically bear the heaviest burden of climate impacts. Women, Indigenous peoples, and other vulnerable groups in developing nations experience disproportionate climate change effects due to existing social, economic, and political disadvantages.

The governance structure is making progress with the Board selecting the Philippines as host country and appointing an Executive Director through a merit-based process. The Board's workplan for 2024-2025 will develop operational procedures, appropriate safeguards, and funding decision mechanisms, necessary to ensure the Fund reaches those most in need across vulnerable communities.

Policy asks:

- The newly operationalised Loss and **Damage Fund** and the **Santiago Network for Technical Assistance** offer entry points for addressing gendered water and sanitation -related losses, both economic and non-economic (e.g. unpaid care work, lost education or dignity due to inadequate sanitation).
- **Ongoing work under the Warsaw International Mechanism (WIM)** on Loss and Damage is actively exploring non-economic losses (NELs). Gender, water and sanitation related NELs should be better defined and documented in that context.
- **Integration of water and sanitation-related gender losses into national Loss and Damage reporting.** Countries should be encouraged to document gender related water and sanitation impacts in national reporting under the UNFCCC, such as through the technical assistance requests under the Santiago Network or inputs to Global Stocktake processes.

A stronger policy and evidence basis is recommended by way of:

- **Case study documentation of gender related non-economic losses in water and sanitation.** Country-level case studies or disaggregated data on how climate-related water and sanitation service disruptions lead to non-economic losses for women and girls, which seems a gap in both evidence and negotiation inputs.
- **Indicators or typologies for gender water and sanitation-related losses need to be developed.** The development of a typology of gender related losses specific to water and sanitation (e.g. increased gender-based violence risks, time poverty, migration impacts) that can support countries and finance providers in identifying these in needs assessments should be developed.
- **Financing mechanisms need to recognise gendered losses.** Climate finance mechanisms, including the Loss and Damage Fund and GCF, should explicitly include gender-responsive water and sanitation related loss and damage in their programming criteria or guidance. Financial instruments can be encouraged to embed performance-based monitoring tools throughout the project cycle, not just at the proposal or design stage.

Application 3: Provide financing support to address gender equality in water and sanitation adaptation programs

The New Collective Quantified Goal on Climate Finance (NCQG) officially encouraged the inclusion and extension of benefits to vulnerable communities and groups including women and

girls,⁸⁰ in line with the Gender Action Plan. This builds on work from funders such as the Adaption Fund^{12,81} and the Green Climate Fund⁸² who have articulated the importance of gender considerations alongside water and sanitation activities. While the use of climate financing for sanitation interventions is nascent, there are many good examples in the water sector. Several examples of these activities are provided below.

→ Responding to the increasing risk of drought: Building gender-responsive resilience in Ethiopia:⁸³

Approved in October 2017, this project addresses drought risks in Ethiopia by introducing solar-powered water pumping and small-scale irrigation systems. It rehabilitates degraded lands and raises awareness to improve local capacity. Over 50% of the beneficiaries are women, and 30% of households are female headed. The project empowers women by involving them in water management and agricultural activities, enhancing their resilience to climate-induced droughts.

→ Enhancing adaptive capacities of coastal communities, especially women, to cope with climate change-induced salinity in Bangladesh:⁸⁴

Launched in July 2018, this project focuses on the southwestern coastal regions of Bangladesh where communities face challenges from salinity intrusion and natural disasters. It provides adaptive livelihoods to women's groups and constructs rainwater harvesting systems to ensure safe drinking water. The initiative empowers women as change agents in planning and managing climate-resilient solutions, benefiting over 700,000 people, with women comprising 50% of direct beneficiaries.

→ Enhancing adaptation and community resilience by improving water security in Vanuatu:⁸⁵

This project aims to improve water security and climate resilience in Vanuatu, focusing on addressing water scarcity and climate-induced droughts. The project's water management strategies ensure that women's needs and participation are carefully embedded into activities. Women, especially in rural areas, are involved in the decision-making process regarding water resources and management. The gender analysis ensures that women's roles and needs in water-related activities are taken into account, fostering more inclusive and equitable climate resilience strategies.

→ Ecosystem-based adaptation approach to water security in Mongolia:¹²

This project in Mongolia, implemented by UNDP and the Ministry of Nature, Environment and Tourism, aimed to enhance water catchments, transfer conservation technologies, and strengthen policies for improved livelihoods and risk management. It focused on vulnerable groups, including nomadic herders and marginalized individuals, especially single-parent women, by building their capacity in decision-making, business skills, and sustainable land practices. The project promoted eco-friendly income diversification through felting, greenhouse production, and water-saving irrigation. By 2017, it successfully increased women's leadership in EBA groups, ensured equal participation in training, and improved women's working conditions.

→ Tunisia:

During the Climate Risk-Informed WASH sector governance analysis exercise, female participants contributed actively to discussions on rural sanitation, climate risk planning, and WASH in schools. Their insights were directly reflected in the development of the national action plan, which explicitly prioritizes women and other vulnerable groups. This is a good example of how including women in project planning can help shape national-level policy formulation.

Policy asks and recommendations:

- **Establish dedicated gender-water-sanitation components in GCF Readiness and Adaptation Planning grants:** Countries working on GCF Readiness or NAP support projects must include gender-responsive water, sanitation and hygiene assessments and investment frameworks in their proposals, leveraging existing GCF gender and adaptation planning guidance.
- **Implement targeted calls or windows for gender, water and sanitation within climate finance mechanisms:** Institutions like the Green Climate Fund, Adaptation Fund, and bilateral donors must establish thematic windows or targeted funding calls to support gender-transformative adaptation in water and sanitation.
- **Position gender-responsive water and sanitation interventions to align with GCF's paradigm-shifting criteria:** Investment in water and sanitation systems that address structural gender inequalities meets the transformational mandate of climate finance and delivers long-term resilience dividends.

We propose operational and programmatic entry points by:

- **Mandate the use of gender-responsive budgeting tools in water and sanitation adaptation projects:** Apply gender-responsive public expenditure reviews or budgeting to WASH climate projects to track how adaptation finance benefits women and marginalised groups.
- **Develop country-specific gender, water and sanitation investment cases:** Create investment cases or financing strategies that quantify both the adaptation and social equity returns of water and sanitation projects for national planning and funder engagement.
- **Implement gender-disaggregated adaptation finance tracking in water and sanitation:** Climate finance recipients and implementing agencies must track gender-disaggregated outcomes in WASH-related adaptation finance, aligning with GCF's gender action plan requirements.

We propose further coordination with the broader gender-climate-water-sanitation community by:

- **Ensure women's rights organisations participate in water and sanitation adaptation finance design:** Gender experts and rights-based actors must be included in the design of water and sanitation adaptation finance mechanisms, from proposal development to M&E, to ensure lived experience is reflected in investments.
- **Utilise platforms like the SWA and the Climate Resilient Sanitation Coalition (CRSC) to share lessons:** Facilitate greater cross-institutional learning on effective funding for gender-responsive water and sanitation adaptation through platforms such as the Baku Dialogue on water and climate, SWA, CRSC, or the NDC Partnership.

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