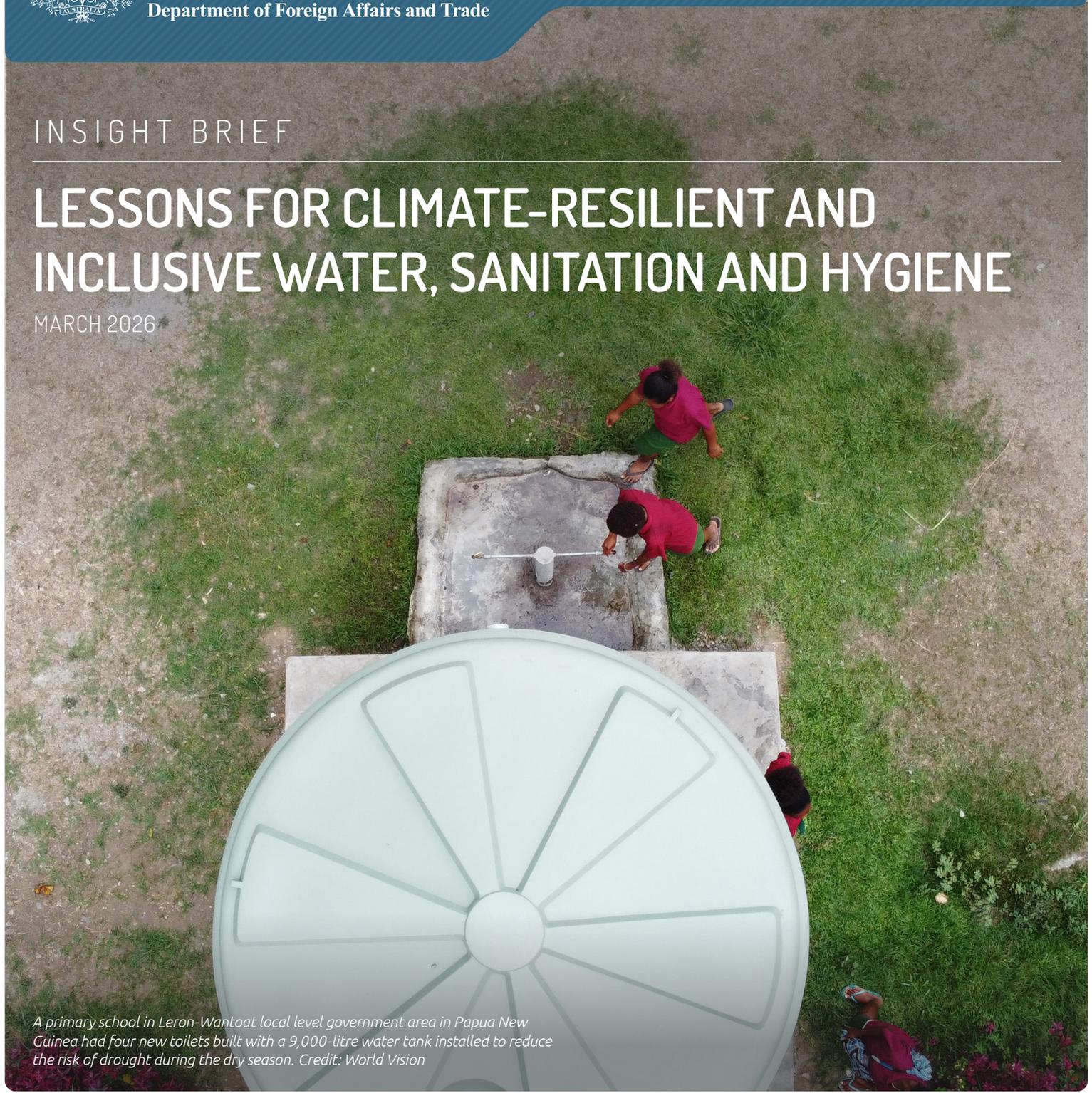




INSIGHT BRIEF

LESSONS FOR CLIMATE-RESILIENT AND INCLUSIVE WATER, SANITATION AND HYGIENE

MARCH 2026



A primary school in Leron-Wantoat local level government area in Papua New Guinea had four new toilets built with a 9,000-litre water tank installed to reduce the risk of drought during the dry season. Credit: World Vision

BACKGROUND

Climate-resilient and inclusive water, sanitation and hygiene (CRI WASH) is critical in the Indo-Pacific region, where intensifying climate impacts are increasing water insecurity and service disruptions. These impacts disproportionately affect women, people with disability, and marginalised groups. As such, there is a need for practical, evidence-based guidance on effective CRI WASH programming.

Climate-resilient WASH outcomes are inseparable from the sustainable management of water resources. As climate change alters rainfall patterns, surface water availability, groundwater recharge and water quality, WASH services are increasingly dependent on broader water resources management systems. Without attention to catchment-level dynamics, competing water uses and ecosystem health, WASH infrastructure and services risk failure, inequitable access and long-term unsustainability.



Beneficiary interview in Cambodia to capture household WASH needs. Credit: East Meets West/Thrive Networks

PURPOSE

This Insight Brief synthesises evidence and learning generated through the DFAT-funded Water for Women Fund to inform future climate-resilient, inclusive WASH programming in the Indo-Pacific. Drawing on documented learning, research and partner experience across the Fund, it distils practical lessons, emerging good practices, and implementation insights relevant to DFAT investments and partners working in climate-vulnerable contexts.

The brief focuses specifically on learning generated under *Water for Women's 2023–24 Collaborative Learning Agenda*, which examined:

- how WASH programs understand and integrate climate risk and resilience
- how WASH governance systems incorporate climate considerations
- how gender equality, disability and social inclusion (GEDSI) strengthen the resilience of people, systems and services.

While grounded in Water for Women experience, the insights presented are intended to support DFAT and its partners in strengthening the design, implementation and oversight of climate-resilient, inclusive WASH investments across the Indo-Pacific.

LESSONS

Water for Women's Learning Agenda, drawing on learning from more than 40 projects across 16 countries, highlighted the following lessons for climate-resilient, inclusive WASH:

- Across all stages of WASH programming, **climate risk and resilience** should be embedded from planning and budgeting through to design, implementation, monitoring and learning. This helps to foster adaptability and transformation.
- Climate-resilient WASH requires **adaptable systems and inclusive governance**, including climate risk management that integrates local knowledge and climate science. Diverse voices must be part of decision-making to promote sustainable WASH practices that reduce climate risks for all communities.
- WASH systems can only be climate resilient when **GEDSI is central**. The lived experience of women, people with disability, First Nations peoples and marginalised groups offer essential knowledge and capacities that must be recognised and supported to ensure they can adapt to climate impacts and withstand climate events. This requires a transformative approach to addressing gender and social inequalities.
- The ability of communities and service providers to **adapt, innovate and scale** resilient WASH solutions is strengthened through **cross-sector collaboration** on evidence generation and implementation. Meeting the needs of all communities requires mobilising adequate, fit-for-context public and private finance, including climate finance, to enable communities and service providers to adapt, innovate and sustain resilient WASH solutions over time.



RISK AND RESILIENCE

Participants at the Community-Led Inclusive Climate Resilient WASH project closing conference in Prey Veng Province, Cambodia, held with the Provincial Department of Rural Development. Credit: East Meets West/Thrive Networks

As WASH programs work to improve service delivery in an uncertain climate future, the concepts of risk and resilience are widely used. Yet what these concepts mean in practice—and how they can strengthen WASH programming—often remains unclear. Responding to this, Water for Women’s Learning Agenda explored two key questions:

- How do WASH programs commonly understand climate risk and resilience?
- How can this be further developed to better inform the design of WASH interventions?

KEY FINDINGS

- **Translating conceptual understanding:** WASH programs recognise climate risk as the potential adverse impacts of climate events, shaped by environmental and social conditions, and climate resilience as the capacity to adapt and maintain WASH services under climate stress. Climate risk to WASH services often stems from changes in water availability and quality, competing water uses, and climate-related hazards such as floods, cyclones, and droughts, underscoring the importance of managing water sources and broader water cycles, including at the catchment scale. While understanding of climate risk and resilience is evolving across the WASH sector, translating this conceptual understanding into practical action at the implementation level remains challenging, requiring tailored and flexible, context-specific solutions that address both gradual changes and extreme events.
- **Adopting a multidisciplinary approach:** There are critical challenges in aligning WASH practices with broader environmental sustainability, as well as in undertaking long-term planning under uncertainty. Additionally, experts from non-WASH sectors, such as disaster risk reduction practitioners, environmental engineers, and climate governance specialists, underscored the importance of adopting a multidisciplinary and collaborative approach across sectors to identify and reduce intersecting risks while enhancing resilience.
- **Engaging with promising practices:** There are promising practices, including integrating climate risk assessments throughout projects, including diverse voices in community committees, and strengthening governance models that can be engaged. Beyond this, local adaptation, gender considerations, and long-term planning can enhance resilience.

CASE STUDY

Since 2015, commune-level Water Safety Planning (WSP) has been a priority of water safety reform in Cambodia. To support its implementation, WSP guidelines have been developed and are being rolled out. In 2023, East Meets West, a non-governmental organisation (NGO), through its Community-Led Inclusive Climate-Resilient WASH project, began working with national, provincial, and local governments to support the WSP rollout and strengthen the integration of climate risks. Reviewing and adapting existing guidelines also helped ensure climate risk assessments were clearly incorporated, making WSP more accessible for provinces and communes where it was newly introduced.



GOVERNANCE

Collecting WASH data from a community in Wewak, Papua New Guinea. Credit: WaterAid

As climate impacts intensify, WASH stakeholders are working to integrate climate resilience more systematically into WASH sector governance. To support this, Water for Women's Learning Agenda explored two key questions:

- *How do WASH governance systems commonly integrate climate risk and resilience?*
- *What lessons from promising practices can we share to support strengthened climate risk integration?*

KEY FINDINGS

- **Incorporating inclusive processes:** Incorporating inclusive processes in governance systems ensures that climate resilience efforts do not inadvertently exacerbate existing inequalities but instead promote broader social equity. Furthermore, including voices from marginalised groups and using both scientific and customary data helps make risk assessments relevant and accessible to local communities.
- **Strengthening governance:** Integrating climate risk into WASH governance is increasingly important as climate impacts intensify. Embedding climate risk management within existing governance frameworks, rather than creating standalone climate-WASH processes, encourages alignment with WASH goals and fosters a systematic approach to climate-resilient and inclusive WASH.
- **Engaging with promising practices:** There are promising practices that are supporting governance systems to be responsive to climate risks and inclusive of all community members. These include building climate risk management capacity within broader governance reforms, combining resources from various funding sources, and prioritising inclusive decision-making.

CASE STUDY

In the Strongim WASH Kominiti project, WaterAid supported the Wewak District WASH Coordination Body (DWCB) in integrating climate risks into the five-year District WASH Plan (2018–23) for East Sepik Province, Papua New Guinea. DWCB members, including Provincial Health Authority staff, shared experience from the national WASH Program management information system (MIS), which incorporates climate resilience and water resource indicators. This strengthened climate risk integration at district and national levels and demonstrated the value of layering climate considerations across WASH planning and service delivery in other provinces.



GENDER EQUALITY, DISABILITY AND SOCIAL INCLUSION

In Pakistan, women-led Inclusive WASH Jirgas ensure women are part of decision-making processes. Credit: IRC

Recognising that gender equality, disability and social inclusion (GEDSI) are central to resilience, it is essential to understand who is most marginalised in WASH systems and how inequality shapes vulnerability. To explore this, Water for Women's Learning Agenda asked the question:

- *Why and how is GEDSI critical to climate-resilient WASH?*

KEY FINDINGS

- **Integrating voices of marginalised groups:** Marginalised groups – such as women, people with disability, sexual and gender minority groups, and low-income households – face compounded vulnerabilities due to social and economic disadvantages, making them disproportionately affected by climate hazards. To create climate-resilient WASH systems, the needs and voices of these groups must be integrated across all stages of WASH programming.
- **Linking GEDSI and water resources management:** Community-based water management research explicitly connects inclusive, resilient WASH outcomes with how water resources are managed in rural contexts. This learning underscores that equitable participation in water management decision-making is critical to achieving climate-resilient and inclusive WASH systems.
- **Shifting barriers to enablers:** Key barriers to marginalised groups accessing climate-resilient WASH services include social stigma, habitat vulnerabilities, institutional discrimination, financial constraints and inaccessible technology. Evidence suggests these barriers can be turned into enablers through inclusive decision-making that prioritises local knowledge and fosters diverse leadership.
- **Employing a transformative approach:** Communities, including marginalised groups, are already resilient. The role of development actors is to leverage and bolster this resilience. For meaningful change, WASH programs, services and systems should employ a transformative approach to GEDSI by embedding social norms change, empowerment, and 'do no harm' practices. This includes upskilling, training, and supporting marginalised groups to engage in WASH governance, strengthening inclusive policies, and promoting equitable resource distribution.
- **Creating pathways to inclusion:** Achieving meaningful GEDSI integration requires recognising all community members, enabling their participation in decision-making, and ensuring equitable access to climate-resilient WASH services. Together, these underpin inclusive pathways that reinforce community and climate resilience.

CASE STUDY

In Pakistan, the International Rescue Committee's awareness sessions and leadership training increased the participation of women, girls, and women with disability in community decision-making, including women-led Inclusive WASH Jirgas. A partnership with the Khyber Pakhtunkhwa Commission on the Status of Women strengthened women's voices in project activities and conflict resolution. Training for the Social Welfare Department and disability organisations supported inclusive disaster planning, while four transgender self-help groups received training in climate-resilient, inclusive WASH.

OPPORTUNITIES

Lesson	Opportunities
<p>Climate risk management must be integrated early and revisited regularly</p> <p>Climate risks differ by scale from the national to local levels. Data availability on climate risks also varies widely. Risk and vulnerability assessments must be tailored, iterative, and grounded in local conditions (not only national projections).</p>	<p>Support partners to institutionalise tailored, iterative risk and vulnerability assessment across program cycles.</p> <p>Invest in sub-national climate data and simple assessment tools.</p> <p>Invest in capacity building for civil society organisations (CSOs) and local governments.</p>
<p>Climate-resilient and inclusive WASH requires multidisciplinary collaboration</p> <p>Currently, fragmented institutions make effective climate-resilience and inclusive WASH planning difficult. Effective planning requires input from WASH, environment, gender, governance, health, meteorology, and water security actors.</p>	<p>Fund or facilitate multisector working groups.</p> <p>Strengthen coordination platforms at national and provincial levels.</p> <p>Embed water resource management considerations and water allocation planning alongside climate, gender and WASH expertise.</p>
<p>Sustainability is the foundation of climate resilience</p> <p>Infrastructure alone does not ensure climate resilience. Operations and maintenance systems, financing, supply chains, spare parts, and local management capabilities determine whether WASH services endure in a changing climate.</p>	<p>Prioritise financing for operations and maintenance systems, life-cycle costing, and sustainable service models.</p> <p>Support low-tech, locally maintainable solutions where the cost-benefit does not justify high-spec resilient infrastructure.</p>
<p>GEDSI is critical for climate resilience</p> <p>Shifting from women and marginalised groups being “vulnerable” to “capable actors” leads to better risk management and more resilient WASH systems. Inclusion must be both targeted, tracking specific actions, and mainstreamed.</p>	<p>Fund targeted support for civil society organisations representing women, youth and people with disability.</p> <p>Embed GEDSI indicators into climate-resilience performance frameworks.</p> <p>Support approaches that shift social norms safely.</p>
<p>Locally-led development requires deliberate design and continuous support</p> <p>Locally led development cannot be added in the middle of a program; it must be designed from inception and supported at individual, organisational, and partnership levels.</p>	<p>Embed locally led development principles in investment designs, including resourcing for local leadership development, local partner systems strengthening, and equitable decision-making structures within consortia.</p>
<p>Public finance alone is insufficient to meet critical WASH needs</p> <p>Blended finance offers a potential mechanism to help bridge this gap by mobilising additional private and public capital to support sustainable WASH outcomes.</p>	<p>Globally, only a small proportion (approximately 5%) of blended finance is directed towards WASH-related activities. This presents a clear opportunity (and challenge) to increase the engagement of WASH-focused organisations in blended finance mechanisms, particularly to support climate-resilient and inclusive WASH outcomes.</p> <ul style="list-style-type: none"> • Lifecycle approach: Use blended finance to support climate-resilient WASH across planning, delivery and long-term operations. • Cross-sector collaboration: Strengthen coordination across WASH, climate, health, urban and finance sectors. • Scale and resilience: Leverage private capital to scale climate-resilient WASH and expand access for vulnerable communities.

Lesson	Opportunities
<p>Climate-resilient WASH depends on sustainable water resources management</p> <p>Climate risks to WASH services are increasingly driven by changes in water availability, quality and reliability at the source level, as well as competing water uses.</p>	<p>Support WASH programs to systematically integrate water resources management considerations, including water source sustainability, seasonal variability and competing water uses, into program design, implementation and monitoring.</p> <p>Strengthen coordination between WASH actors and institutions responsible for water resources, environment and land-use planning, and invest in inclusive, community-based water management approaches that enable equitable decision-making and long-term service sustainability under climate stress.</p>

CONCLUSION

Water security underpins development outcomes in the Indo-Pacific region and is increasingly shaped by climate change and competing demands on water resources. Climate-resilient, inclusive WASH must therefore be aligned with broader water resources management approaches to ensure equitable, stable and sustainable development.

The lessons from Water for Women offer practical, evidence-based guidance for integrating climate risk, strengthening WASH governance, and applying GEDSI principles to WASH programming. By embedding these lessons into policy frameworks, as well as new and existing investments, DFAT can better support partner governments and communities across the Indo-Pacific to build climate-resilient and inclusive WASH systems that respond to local resources, consider local ecosystems, and ensure local services remain sustainable in an increasingly uncertain climate future.

RESOURCES

There are resources available to support climate-resilient, inclusive WASH:

- [What Does Climate-Resilient Inclusive WASH Look Like? Insights from Water for Women](#) (Water for Women)
- [Integrating Risk and Resilience for Climate-Resilient WASH Programming](#) (Water for Women)
- [Strengthening Governance for Climate-Resilient WASH Systems](#) (Water for Women)
- [The Criticality of GEDSI for Climate-Resilient WASH](#) (Water for Women)
- [Resilienttogether How Climate-Resilient Inclusive WASH Contributes to Climate Resilience](#) (Water for Women)
- [Reflections and Learnings across all Four Water for Women EOPOs](#) (Water for Women)
- [Good Practice Note on Integrating Climate Change into Development Assistance for Implementing Partners](#) (DFAT)
- [Guidance on Water and Adaptation to Climate Change](#) (UNECE)



FURTHER INFORMATION

For further information and support, please contact: climate.integration@dfat.gov.au