

Monitoring the contribution of water, sanitation and hygiene to community resilience to climate change

Summary brief

This summary brief and associated guidance note presents a concise five-step, iterative process for monitoring intervention-level WASH contributions to community resilience that will inform integrated WASH-community resilience action.

This summary brief accompanies the guidance note 'Monitoring the contribution of water, sanitation and hygiene to community resilience to climate change', ¹ and provides an overview of why and how to monitor the contribution of WASH to broader community resilience. The target audience is WASH-focused development agencies interested in maximising their program impact in the context of climate change. For more detail, consult the guidance note.

Why monitor the contribution of WASH interventions to community resilience?

Monitoring how WASH interventions contribute to community resilience can:

- Guide interventions towards strengthened resilience outcomes and support implementers to maximise positive impacts
- Provide systematic evidence and feedback loops on the effectiveness of WASH strategies to contribute to community resilience
- Build the investment case for WASH in climate adaptation finance
- Strengthen cross-sectoral collaboration and evidence of its effectiveness, including with water resources management actors and others
- Measure progress toward local and global adaptation goals, such as the UNFCCC Global Goal for Adaptation, which covers thematic targets against water, food, health, ecosystems, infrastructure, poverty and cultural heritage

What are key determinants of community resilience, and to which of these can WASH interventions contribute?

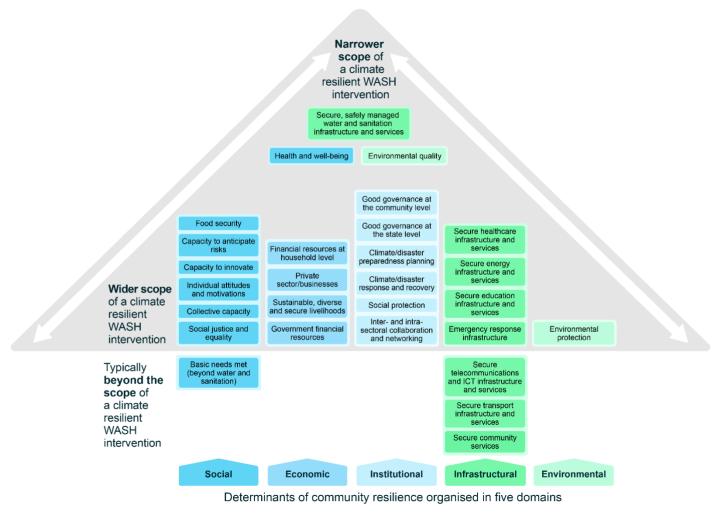


Figure 1: Varied scopes of climate-resilient WASH interventions and their linkage to determinants of community resilience

Literature on community resilience measurement frameworks, across academic and development agencies, include five common dimensions: social, economic, institutional, infrastructural and environmental.

All WASH interventions make contributions to community resilience, through access to **secure safely managed water and sanitation** which is a basic daily need and right that is needed during normal times and during climate events and shocks. Improvements in WASH also make direct contributions to two other key determinants of community resilience: (i) **health and well-being** and (ii) **environmental quality**.ⁱⁱ

When WASH interventions are planned with a community-resilience lens and a wider scope, these WASH interventions move beyond achieving WASH outcomes, to also **strengthen other community dimensions of resilience** (Figure 3). Those stronger communities, in turn, reinforce good WASH systems. These mutual feedback loops are especially important in lowand middle-income countries where communities continue to have a significant role in WASH service delivery.

Steps to monitoring WASH contribution to community resilience

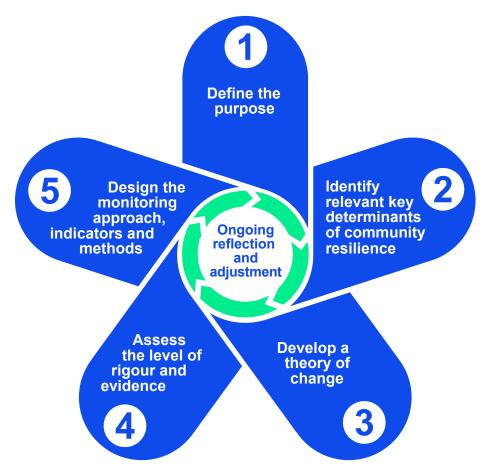


Figure 2: Diagram outlining the five-step process to plan for monitoring the contribution of WASH interventions to community resilience

Step 1: Define the purpose of the monitoring

Clearly define the purpose of monitoring a WASH intervention's contribution to community resilience. For example, is it for primarily for understanding effectiveness, advocacy, access to climate finance, program improvement, cross-sector collaboration, or donor compliance? Build in early stakeholder dialogue about these possible purposes, thinking through who will use the monitoring information. This ensures the monitoring approach is fit-for-purpose and produces evidence that actually informs decisions and actions.

Step 2: Identify relevant key determinants of community resilience

Out of the many determinants of community resilience that WASH programmes can strengthen through different pathways, **create a long-list of possible determinants**. These could be based on the existing WASH program design, contextual constraints to community resilience in relevant locations, collaboration opportunities across sectors, stakeholder priorities and preliminary evidence of contributions to certain determinants. Then, **select one to three priority determinants** to monitor, guided by strategic and practical questions about likely contribution, scale, alignment, risks, potential quick-wins and feasibility, before mapping those priorities to intervention activities and actors.

Health and well-being

- Disease reduction
- · Clean, dignified environment
- · Reduced distress and increased privacy and safety meeting defecation and menstrual hygiene
- · Reduced stress and health impacts from collecting water

Food security

- Enhanced water availability for irrigation, kitchen gardens
- · Increased nutrients from safe re-use

Capacity to anticipate risks

· Risk assessment skills

Capacity to innovate

· Novel WASH innovations stimulate other innovations

Collective capacity

- · Increased community cohesiveness through collective efforts
- · Reduced WASH-related conflicts flow-on to improve overall conflict management

Social justice and equality

- · Women's empowerment and leadership
- · Reduced physical and financial burden from affordable services
- · Shifted gender and inclusion dynamics

Social

Financial resources at household level

· Reduced illness, increased productivity and time saved

Sustainable, diverse and secure livelihoods

· Improved small-scale business operations that require water access

Private sector and businesses

- · Entrepreneurship skills and small-scale businesses
- · Small business access to water and wastewater services

Government financial resources

· Revenue from tariff collection

Environmental quality

- · Improved water quality for groundwater and surface water
- · Healthier water ecosystems

Environmental protection

- · Water resource management. protection and restoration
- · Nature based solutions to recharge water and extend wastewater treatment

Climate-integrated WASH interventions designed to promote community Institution resilience

Intrastructual

Good governance at community-level

 Strengthened transparent budget, fee collection and expenditure tracking

Good governance at the state level

- · WASH monitoring builds capacity for transparent, accountable decision-making
- WASH systems strengthening builds institutional capacity, planning for equity etc.

Secure, safely managed WASH infrastructure and services

· Reliable and quickly recovered WASH services during and after climate events, stresses and shocks

Secure energy infrastructure and services

· Renewable energy installed for WASH systems also reduces strain on central grid, energy costs, and emissions

Secure education infrastructure and services

· WASH in schools promotes attendance. dignity and safety

Emergency response infrastructure

· WASH facilities in temporary shelters enhances hygiene, willingness to evacuate

Climate/disaster

disaster response

Climate/disaster response and recovery · Use of WASH disaster recovery as part of general

preparedness planning · Improved capacity to undertake risk.

vulnerability and resilience assessments

Intra and inter-sectoral

collaboration and networking · Catalyst for collaboration

across sectors

Social protection

Promotion of multi-sectoral emergency response mechanisms

- · Bundling WASH with other social protection schemes
- · Improved shock responsiveness for vulnerable populations
- · WASH rights advocacy promotes mechanisms to claim other rights

Secure healthcare infrastructure and services

· WASH facilities essential to adequate healthcare support infection prevention and reduce risks to vulnerable populations

Step 3: Develop a theory of change of how the project will strengthen the determinants

Use the intervention's theory of change to map how WASH activities plausibly contribute to the selected community-resilience determinants by identifying realistic, near-term outcomes (framed as stakeholder behaviours, actions or relationships) within the project's sphere of influence. Select the most robust causal pathways for monitoring rather than attempting full attribution to broad resilience, and use that logic to inform the creation of practical, informative indicators.

Step 4: **Assess the level of rigour and evidence**

Plan resources for monitoring a WASH intervention's contribution to community resilience based on the monitoring purpose and required level of evidence; ranging from low-rigour, lower-cost approaches (such as case studies, small-scale surveys) to high-rigour, resource-intensive impact evaluations (the latter needed only when causal attribution is required).

Step 5: Design the monitoring approach, indicators and methods

Design the monitoring approach, including selecting (Specific, Measurable, Achievable, Relevant, and Time-bound) SMART indicators and data-collection methods, ideally integrated with project or government systems. The monitoring system needs to be proportionate to the scale of expected contributions, realistic given available resources, data and capacity. Such systems should be developed in collaboration with non-WASH partners with expertise in other relevant sectors and communities to ensure inclusion and participation and timed to remain useful as resilience outcomes unfold beyond the project's timeframe.



Looking forward

Following the steps outlined in this brief will support WASH implementers to more effectively track progress, learn from experience, and plan and implement the integrated solutions needed to build community resilience, aligning the scope of WASH interventions to the key contextual constraints to community resilience in specific locations. Climate change impacts transcend traditional boundaries of development practice. As global warming continues, piecemeal and sector-specific adaptations may become increasingly ineffective at protecting communities. As such, WASH implementers must evolve their practice to more deliberately leverage its interconnectedness with other systems to realise more transformational adaptations that can more significantly build community resilience to climate change. Whilst doing so, WASH implementers must *also* preserve the quality, depth and impact of sector-specific work to improve climate resilient WASH services and systems where they are lacking, as their absence will constrain community resilience to climate change.

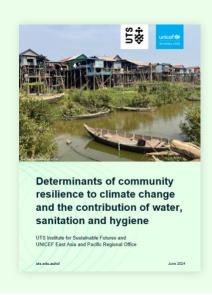
Citation and acknowledgements

UTS, UNICEF & GWP, 2025 Summary brief. *Monitoring the contribution of water, sanitation and hygiene to community resilience to climate change.* Prepared for UNICEF East Asia and the Pacific Regional Office by the University of Technology Sydney – Institute for Sustainable Futures. Authors: Jeremy Kohlitz, Georgina Robinson and Juliet Willetts.

Funding support is gratefully acknowledged from Australian government Department of Foreign Affairs and Trade.







ⁱ Willetts, J., Rodgers, D., Kohlitz, J., Medina Valenzuela, A. 2024 *Determinants of community resilience to climate change and the contribution of water, sanitation and hygiene*. Prepared for UNICEF East Asia and the Pacific Regional Office by University of Technology, Institute for Sustainable Futures. https://knowledge.unicef.org/wash/resource/eaprodeterminants-community-resilience-climate-change-and-contribution-water-sanitation

ii Environmental quality here refers to soil and air quality, water quality and biodiversity and healthy ecosystems