

Leveraging Water for Accelerating Climate Adaptation

Key Points

- Climate change is here. Adaptation therefore is not just essential but is also smart economics with returns of \$2 to \$10 for every dollar invested.
- Water is the primary medium through which climate change is manifested.
- With ~60% adaptation related to water, it is at the same time a key enabler of adaptation
- The poor and disadvantaged groups including women, indigenous people, persons with disabilities are disproportionately affected by climate change; addressing drivers of underlying vulnerability is key for successful adaptation.
- Improving water management and climate adaptation in coordination would protect water resources, reduce disaster risks, lower greenhouse-gas emissions and assure equitable access.

The Importance of Accelerating Adaptation Action

- With enough GHGs already released in the atmosphere, the world has committed to some level of climatic impacts. The IPCC AR6 report findings underscore the dire need for adaptation, and for some regions it's 'either adapt or die'.
- Global water cycle has been badly affected by decades of mismanagement which is being exacerbated by climate change. As a result, 1.5 billion to 2.5 billion people live in areas where water is scarce for at least part of the year— and those numbers could double by 2050. The World Bank estimates that, by 2050, 216 million people will need to relocate within their own countries.
- Given the scale of climate change, and the fact that it will affect many areas of life, adaptation also needs to take place on a greater scale and at a faster pace. Our economies and societies as a whole need to become more resilient to climate impacts.
- Adaptation can also offer mitigation co-benefits and can facilitate transition to low carbon economies. Water's mitigation potentials are less well recognised and at the same time without appropriate considerations mitigation and adaptation actions can increase water stress.
- Adaptation is estimated to cost US\$140 billion to US\$300 billion per year by 2030. In 2018, more than 90% of global climate funding (of US\$746 billion) went to mitigation, leaving just US\$34 billion for adaptation leaving a huge finance gap. And the water sector has been receiving not more than 3% of total climate funds.

Why Water Must Be at the Center of Adaptation

- With three quarters of all disasters being water related, the climate crisis arguably is a water crisis as well.
- Water security is fundamental for living. Development and rapid urbanization are increasing global demand for water. Coupled with temperature rise and altered precipitation patterns, up to 4 billion people with 4C temperature rise could live in highly water stressed conditions by 2050.
- Managing water effectively is an essential part of adapting to climate change. ~82% countries that signed up to the Paris climate agreement list water as an adaptation priority in the Nationally determined Contributions (NDCs)
- Livelihoods, infrastructure, health, peace and security are all adversely impacted by floods, water scarcity, increased frequency of intense storms and sea level rise. Due to water's multisectoral nature, a whole of society response is needed to generate appropriate solutions.
- Failure to account for water and its interconnectedness across various sectors and systems can potentially result in maladaptation.

Key Policy Recommendations

- Develop climate resilient approaches for managing and governing water for a changing climate as the past is no longer a reliable predictor of the future. This should entail broad collaboration and drawing together various approaches and forms of evidence (modelling, Indigenous knowledge, lived experience) to project the likely variation in the availability and distribution of water.
 - Enhancing resilience in practical terms could indicate developing robust (they function under all reasonable climate projections) and flexible (they can be modified as situations evolve) systems.
 - Call for enhancing resilience and infrastructure paradigm shift should not lead to a false dichotomy between green and grey solutions. Rather it is necessary to recognise the risk reduction benefits of ecosystems and green infrastructure offer and adopt a blended design approach to maximize system performance and achieve greater benefits for people, nature and the economy.
- Increase investments in water-based adaptation. It is not only essential but also good economics. The cost of adaption is less-than one-tenth of that predicted for inaction (paying for lost crops, disaster relief and recovery after floods and droughts). For example: in Sub-Saharan Africa cost of adaption in \$6 billion per year versus \$90 billion per year for inaction.
- Maximise the mitigation potential of water adaptation practices and at the same time minimise the water footprint of adaptation and mitigation initiatives. For example: Improving water and wastewater treatment can improve water efficiency, minimise water and environmental pollution and cuts methane emissions too. Taking land and water

away from food production to produce biofuels for renewables could inflate local food prices and increase water stress.

- Addressing underlying and structural drivers of vulnerability is critical for successful adaptation and avoiding maladaptation that leads to increased vulnerability. Broad-brush solutions oblivious of local context, equity, inclusion and justice in climate change will fail to deliver.
 - Local communities must have a voice in shaping and determining their futures and, where appropriate, must lead the decision-making process.
- Facilitate for an enabling environment, strengthen stakeholder capacities including youth empowerment, and identify and implement catalysing interventions to transition and transform proactively to a climate-resilient society.

This briefing is derived from a series of webinars, meetings, and dialogues with water practitioners across the globe, who are part of the Water Adaptation Community, hosted by the Global Center on Adaptation. It is intended to advance engagement and facilitate knowledge sharing on the subject of water adaptation.

GCA would like to acknowledge and thank the members of the Water Adaptation Community for contributing their perspectives to this community-sourced briefing, which may not necessarily represent those of GCA.

Additional Resources and Further Reading

- Join the [Water Adaptation Community](#)
- Global Center on Adaptation. State and Trends in Adaptation Report 2022. <https://gca.org/reports/sta22/>
- Organisation for Economic Co-operation and Development The Roundtable on Financing Water. <https://www.oecd.org/water/roundtable-on-financing-water.htm>
- African Development Bank on climate change. <https://www.afdb.org/en/topics-and-sectors/sectors/climate-change>
- World Bank Group 's Action Plan on Climate Change Adaptation and Resilience. <https://documents1.worldbank.org/curated/en/519821547481031999/The-World-Bank-Groups-Action-Plan-on-Climate-Change-Adaptation-and-Resilience-Managing-Risks-for-a-More-Resilient-Future.pdf>