



Building Water Resilience in a Changing Climate – A Paradigm Shift in Integrated Water Resources Management

Changes in the water regime due to climate change have made water systems more complicated¹. Climate change and climate variability is affecting water availability in both quantity and quality, and this can be felt through variations in precipitation as well as occurrence of more extreme weather events. Water is a key driver of social and economic development and water issues cannot be managed in isolation.

Integrated Water Resources Management (IWRM) encompasses a broad and interconnected approach to water management, and is a process which promotes the coordinated development and management of water, land and related resources in order to maximize economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems and the environment².

In assessing the changes to the water systems, we extrapolate the historical records to plan and manage the future. However, increased frequency of extreme events and uncertainties in predicting climate change will affect some of the basic aspects of IWRM which need to be revisited. Changing our understanding of the specific water regime from being based on records of historical events/data (facts) to predictions based on models, and associated uncertainty, needs to be incorporated in IWRM for the future.

More than half the world's population currently dwell in urban areas, and another 2.5 billion people are expected to join them by 2050. The frequency of extreme rainfall events and flash floods are on the rise as the changing climate is causing storms to move slower dumping more rainfall on a smaller area. This greatly affects big, densely populated cities. Prolonged droughts and desertification are affecting arable lands undermining food security³.

¹ <https://doi.org/10.1016/j.jhydrol.2013.08.010>

² <https://www.planning.org/knowledgebase/watermanagement/>

³ <https://unfccc.int/news/rapid-urbanization-increases-climate-risk-for-billions-of-people>

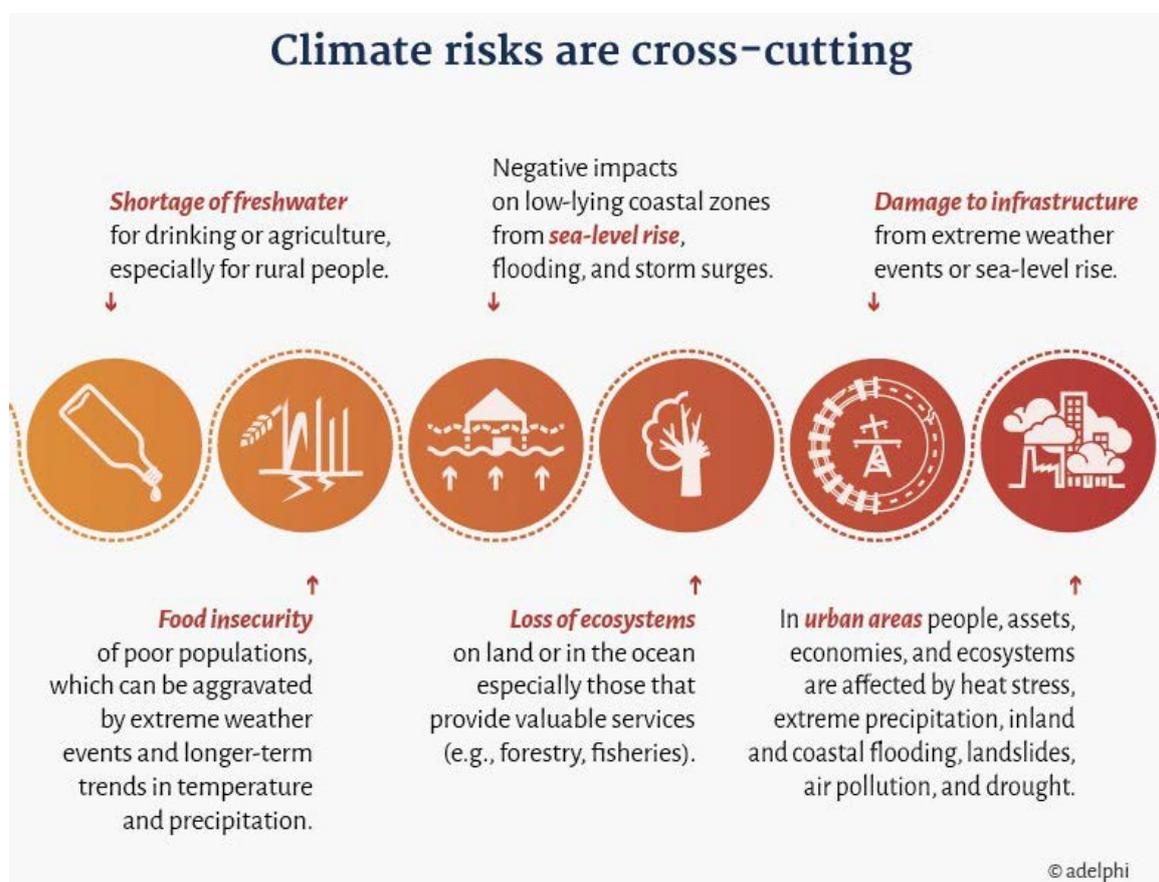
Asian Disaster Preparedness Center in coordination with Asian Development Bank as part of the COP 26 Resilience Hub is hosting a virtual event on *“Building Water Resilience in a changing climate – IWRM for urban areas and food security”* focusing on how to strengthen water resilience in a changing climate in urban areas as well as for food security. The discussions will explore the need to revisit IWRM approaches of managing water and address a number of questions to build water resilience in a changing climate:

1. How can IWRM be updated to build water resilience in urban areas and for food security in a changing climate?
2. What are the changing roles of local actors in building water resilience in a changing climate?
3. Can improved water governance counteract erosion of water resilience due to climate change?

These questions are pertinent not only for building water resilience but also to strengthen national water security. Recovering from the setback caused by COVID-19 and adapting to climate change pushes water security high on most countries’ agendas. Water security enables social and economic development and provides the conditions for a healthy and prosperous society.

Urban water security and resilience can be achieved through investing in water, sanitation, and disaster risk reduction within the cities and their surroundings. Similarly, water-efficient smart agriculture can improve food security and secure rural livelihoods enhancing resilience and viability of rural areas.

IWRM will need to be revisited not only from a climate change perspective but also the changing roles of actors (regional, national and local) and governance in building water resilience and achieving water security for the future.



Cross-cutting climate risks and the need for change in the IWRM approach (Source: adelphi)