Mastering Disaster in a Changing Climate: Adaptive Water Management For Disaster Risk Reduction

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There is wide recognition that climate change has a strong impact on disasters. However, current disaster risk reduction (DRR) and national, as well as global, climate policies, practice, and financing do not always reflect these linkages. Managing water is an essential component for addressing and adapting to these risks. We believe that improving community resilience and reducing chronic vulnerability to disasters – particularly in an era of increasing climate uncertainty – requires the mainstreaming of adaptive water management strategies within DRR and climate change policies and plans to ensure a resilient and thriving future for people and ecosystems.

The nature of natural hazards is evolving as climate change alters the size and scope of weather-related hazards. Unfortunately, in most regions our response to disasters is not keeping pace with the quickening pulse of climate change. These gaps are visible at multiple levels, from local-scale extreme event preparation and response to global policy frameworks, such as the Sendai Framework for Disaster Risk Reduction. Climate change influences disaster risk reduction (DRR) policies and actions at two levels: preparation and recovery.

DRR *preparation* is about identifying risks before a disaster. Under the influence of a changing climate, hazard risks are shifting over time. Novel events continue to emerge with impacts that are exponential, such as the disappearance of snowpack and glacial water resources in the Himalayas and Andes, as well as "new" extremes such as Typhoon Haiyan in 2015, or exceptional droughts or floods on nearly every continent. Understanding the nature of new and shifting risks will therefore be an increasingly important aspect of future climate projections and decision-making.

Climate change also influences how we establish *recovery* goals after a disaster event. Traditional DRR views recovery as a process intended to return to "normal" pre-disaster conditions as quickly as possible. But what if "normal" conditions no longer exist as a result of ongoing climate change? Following a major fire, for instance, a forest may grow back as a savannah or grassland or a different type of forest as a result of shifts in precipitation patterns and drought frequency.

Same goals but different approaches

While the Sendai Framework includes little mention of climate change, the UNFCCC's Paris Agreement (2015) similarly includes little or no reference to DRR as an important modality for coping with climate impacts. A blending of insights and perspectives from the DRR and climate change communities may be timely.

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