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Issues Brief

Water Management - Transforming Disaster Management from Response to Preparedness and Resilience

**[Contribution to Working Session on 'Integrated Risk Management, Ecosystems
and Water-Related Risks']**

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Rationale

Floods, storms, droughts, heatwaves, and other weather-related events accounted for 90% of the major disasters that have occurred in the last 20 years¹. Water is the medium through which the impacts of climate change translate to risks. The IPCC 5th Assessment Report predicts more frequent and more severe droughts, floods and storms, intensified glacier melting and sea level rise, all of which cause and contribute to increasing numbers of disasters worldwide.

Global flood damages are estimated at US\$120 billion per year from urban property damages alone². A business-as-usual scenario projects by 2050 a 30% increase in the number of people potentially exposed to flooding and a threefold increase in economic damage. Major droughts, on average, already reduce per capita GDP growth by half a percentage point, putting development gains at risk. Climate change is exacerbating this situation further and results in a shift that demands greater resilience.

In many regions climate conditions are diverging from the designed conditions of existing or planned water infrastructure, threatening the integrity, efficiency, and safety of this infrastructure and the human systems and ecosystems that interact with that infrastructure. At the same time, investments in

¹ UNISDR (2015) The Human Cost of Weather-Related Disasters 1995-2015

² Sadoff, C.W., Hall, J.W., Grey, D., Aerts, J.C.J.H., Ait-Kadi, M., Brown, C., Cox, A., Dadson, S., Garrick, D., Kelman, J., McCormick, P., Ringler, C., Rosegrant, M., Whittington, D. and Wiberg, D. (2015) Securing Water, Sustaining Growth: Report of the Global Water Partnership/Organisation for Economic Cooperation and Development Task Force on Water Security and Sustainable Growth. University of Oxford, Oxford, UK.

integrated water resources management and climate-resilient infrastructure are not advancing at the rate needed to build resilience in the face of climate change.

These issues need to be seen in the context of the role of water management for all parts of the economy and society to function. Food and energy security depend on managing water resources in an efficient and sustainable way, essential to make societies more resilient to climatic extremes. Access and to clean drinking water and sanitation have large implications for public health.

State of Play and Opportunities

Despite the economic argument that preparedness and resilience pay off and the high-level political commitment, reflected in the Sendai Agreement for Disaster Risk Reduction, close to 90% of disaster related development assistance focuses on emergency response, reconstruction and rehabilitation³.

Investments in water security are investments in disaster risk reduction. They help safeguard socioeconomic growth in the face of increasing vulnerabilities to water-related risks. The most beneficial water investments have been connected to integrated planning that combines and sequences investments in infrastructure, institutions and information over the long-term and can inspire action on disaster risk reduction in other fields. They are investments in prevention and reductions of potential damages before disasters occur.

The UN/World Bank High-Level Panel on Water highlights in its outcome document⁴ that a different approach based on prevention and preparedness as well as additional financing for water-related DRR and effective use of available funds is needed. It notes that increased resilience against climate change stimulates economic activity, ensures fiscal stability, and provides the foundation for sustainable societies and livelihoods and that preparedness and resilience should be high on the political agenda and embedded in actions toward sustainable development.

A challenge is that there is limited capacity to prepare projects towards bankability, which are adapted to respond to an uncertain future and supported by robust management and governance arrangements as well as inclusive and participatory consultation processes. Climate finance provide an opportunity if country officials have the capacity to access and put resources to maximum gain.

Challenges related to water often have, at their root, management or governance issues related to water policies, legal frameworks, and institutional capacity. Even if all water problems are local, the solutions are similar: high political commitment, increased finance for water, cross-sector cooperation, informed stakeholders, reliable information, competent institutions, fair decision-making, and benefit-sharing.

Advancing towards the goal of the Sendai Framework for Disaster Risk Reduction to strengthen resilience, there is a need to focus on water management. This is essential for all of the Sendai Frameworks four priority areas - understanding risk, ensuring governance structures are in place, investing in DRR for resilience and to “Build Back Better”. The effort needs to connect to and enable a joint push with the Sustainable Development Goals, in which water plays a central role, as well as the

³ Kellet, J.; A. Caravani (2013) Financing Disaster Risk Reduction; A 20 year story of international aid; GFDRR, ODI

⁴ High-Level Panel on Water Outcome Document (2018) Making Every Drop Count; An Agenda for Water Action

Paris Agreement, in which floods and droughts top the list of climatic hazards identified in Governments' Nationally Determined Contributions (NDCs).

Disaster Risk Reduction, resilience to climate change and sustainable development are often not addressed in a coherent way in policy and practice. Water management approaches and practices can make important contributions to strengthen the coherence between the Sendai Framework for Disaster Risk Reduction, the Paris Agreement and the Agenda 2030 for Sustainable Development in practice.

It requires working together: Integrating water- and climate-related challenges, closely linked to Disaster Risk Reduction. Place-based approaches and partnerships will be key to make global commitments meaningful.

Way Forward

Water management interventions are uniquely positioned to build resilience. This requires a focus on the three Is: Better and more accessible Information, including early warning systems but also actionable information to take planning and management decisions, stronger and more adaptable Institutions, and natural and man-made Infrastructure to store, transport, and treat water for building resilience⁵.

Well-informed and prominent voices of water are needed to shape new, stronger, and more reliable decision-making systems that involve multi-stakeholder platforms, bringing all users and managers of water resources together, and provide the space for continual learning and innovation as much as for continued action. Integrated Water Resources Management (IWRM) provides the framework to strengthen resilience for disaster risk reduction and climate change adaptation. And with more than 60% of all watercourses crossing borders there is an important transboundary perspective to water management and disaster risk reduction.

The scale of investment required to secure sustainable water for all will be substantial. The High-level Experts and Leaders Panel on Water and Disasters (HELP) produced a set of "Principles on Investment and Financing for Water-related Disaster Risk Reduction", to support countries to better raise and spend funds for DRR. It also launched a flagship document on good practices and lessons of drought and flood management. Featured in these flagship documents as concrete action on the ground are international HelpDesks⁶, implemented jointly by the World Meteorological Organization (WMO) and the Global Water Partnership (GWP) together with over 60 international organizations.

Integrated flood management and integrated drought management are participatory, multi-stakeholder approaches to developing solutions and reducing water-related disaster risks. An appropriate mix of structural and non-structural approaches and technologies, to reduce mortality and economic losses from water-related disasters is needed. Ecosystem based approaches are responding in dynamic ways to ongoing climate change with a strong potential to mitigate risk and build resilience of livelihoods.

⁵ Sadoff, C. and M. Muller (2009) Water Management, Water Security and Climate Change Adaptation: Early Impacts and Essential Responses; GWP Technical Committee Background Paper no. 14

⁶ Integrated Drought Management Programme (IDMP) www.droughtmanagement.info and Associated Programme on Flood Management (APFM) www.floodmanagement.info

An all of society engagement is needed supported by political leadership to raise awareness, strengthen science, the gender perspective, policy and planning, build capacity, and mobilize financing. Strengthened DRR governance through multi-stakeholder platforms, which ensure that all relevant actors including the most vulnerable groups are involved, will help turn political will into effective actions.