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2023 United Nations Conference on the Midterm Comprehensive Review of the Implementation of the Objectives of the International Decade for Action, "Water for Sustainable Development", 2018–2028
New York, 22 March –24 March 2023
Interactive dialogues

Interactive dialogue 3: Water for Climate, Resilience and Environment

Concept paper prepared by the Secretariat

Summary

The present paper was prepared pursuant to paragraph 9(d) of UN General Assembly resolution 75/212, in which the Assembly requested the Secretary-General of the 2023 United Nations Conference on the Midterm Comprehensive Review of the Implementation of the International Decade for Action, "Water for Sustainable Development", 2018-2028 (hereinafter: UN 2023 Water Conference) to prepare concept papers on each of the themes of the interactive dialogues, taking into account the relevant water-related processes of the Assembly and other possible contributions. The present paper concerns interactive dialogue 3, entitled "Water for Climate, Resilience and Environment: Source to Sea, Biodiversity, Climate, Resilience and Disaster Risk Reduction (SDGs 6.5, 6.6, 7, 11.5, 13, 14, 15)." In the paper the challenges, current status, opportunities for progress, transformative solutions and recommendations related to the interlinkages between water, climate, resilience and environment are set out.

I. Introduction[1]

1. The world is not on track to achieve SDG 6 – water and sanitation for all and related goals and targets by 2030.[2] Water provides social, cultural, environmental, economic, and political values. It connects and supports terrestrial, freshwater and marine ecosystems through the hydrological cycle. The COVID-19 pandemic highlighted the inextricable linkages between water and the three pillars of sustainable development as well as the need to build resilience, particularly in communities most at risk. These links are cross-cutting and underpin the achievement of all SDGs.

2. Water is a critical determinant to achieve internationally agreed goals and targets, including those contained in the 2030 Agenda for Sustainable Development, the 2015 Paris Agreement and the Sendai Framework for Disaster Risk Reduction 2015–2030.[3] The UN Secretary-General's Plan on the Water Action Decade 2018-2028 recognises water as being at the heart of these recent agreements.[4] The recently adopted 2022 Kunming-Montreal Global Biodiversity Framework replacing the Aichi Targets also recognises the role of water.

3. Increasing climate extremes and variability, coupled with unsustainable growth and consumption, is leading to more severe and frequent water-related disasters and risks, worsening environmental degradation including pollution, increasing water temperatures and ecosystem loss, and profoundly affecting economies, societies and the environment.[5] This in turn undermines the natural ability of ecosystems to combat both the causes and impacts of climate change. An increase in global warming is projected to exacerbate risks to ecosystems and humans; nine out of ten disasters triggered by natural hazards during the last decade were water-related.[6] Due to their water-dependent nature, food security, human health, urban and rural settlements, energy production, industrial development, economic development, and ecosystems are increasingly vulnerable to the impacts of climate change. At the same time, responses to climate change also impact water resources and hydrological processes.[7]

4. This thematic concept paper summarises key issues, challenges and trends related to water for the interlinked topics of climate, resilience and the environment to inform the interactive dialogues that will be held at the UN 2023 Water Conference. The paper draws on existing knowledge and preparatory dialogues to the Conference and presents barriers and opportunities to revitalise the call to action on SDG 6 to inspire commitments toward the Water Action Agenda.

II. Current status and challenges

5. Climate change, unsustainable human activities and poor environmental management affect the availability, quality and quantity of water, impeding the realisation of the human right to water and sanitation, a clean and healthy environment as well as other related human rights.[8]

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[1] This Concept Paper has benefitted from contributions from Member States, UN system and a diverse group of stakeholders: https://sdgs.un.org/conferences/water2023/documentation and https://www.un.org/sites/un2.un.org/files/final_water_consultation_report_19_oct.pdf

[2] UN (2022) The Sustainable Development Goals Report 2022

[3] High-level Panel on Water (HLPW) (2018). Making every drop count: An agenda for water. HLPW Outcome Report.

[4] UN (2018). United Nations Secretary-General's Plan: Water Action Decade 2018-2028.

[5] IPCC, 2022, "Summary for policymakers" in *Climate Change 2022: Impacts, Adaptation and Vulnerability*. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change. Cambridge University Press, Cambridge, UK and New York, NY, USA

[6] Figure taken from Sendai Framework Monitor, 2010-2019. Available at https://sendaimonitor.undrr.org/

[7] see note 4, pp. 3–33

[8] UNESCO, UN-Water, 2020: United Nations World Water Development Report 2020: Water and Climate Change, Paris, UNESCO.

In 2018, 2.3 billion people (almost 30% of the global population) lived in countries under water stress and 3.6 billion people faced inadequate access to water at least one month per year.[9] As climate impacts do not recognise borders, and 60% of global freshwater supplies, are found in transboundary basins shared by 153 countries, this adds an international dimension to climate change adaptation and disaster risk reduction.[10]

6. At the same time, greenhouse gas (GHG) emissions also originate from water-based processes.[11] For instance, conventional treatment processes rely on constant energy supply, derived partly from burning fossil fuels. Sewage treatment plants and sludge disposal methods tend to generate methane, a highly potent GHG. Climate-smart water management could help avoid and reduce emissions of carbon, methane and nitrous oxide emanating from water and wastewater management, as well as mismanaged or drained freshwater systems, such as peatlands.

7. Resilience refers to the ability of a system, community or society exposed to hazards to resist, absorb, accommodate, adapt to, transform and recover from the effects of a hazard in a timely and efficient manner, including through the preservation and restoration of its essential basic structures and functions through risk management.[12] Yet, recent events, such as COVID-19 and devastating floods, such as in Pakistan, show that many countries lack the necessary preparedness, coping capacities and governance systems to deal with the systemic nature of risk.[13] This increases the likelihood of disaster risks[14] as well as the cascading impacts of disasters.[15]

8. The extent of water-related risk is growing at an unprecedented rate, as are the frequency, intensity, and costs of disasters, causing significant losses and damages to people, nature, economic assets, and infrastructure.[16] Water-related disaster deaths have more than doubled in the last 10 years. Nearly 95% of infrastructure loss and damage reported between 2010 to 2019 were due to water-related disasters.[17] At least 1.4 billion people have been affected by droughts and 1.6 billion by floods between 2000 and 2019.[18]

9. The Intergovernmental Panel on Climate Change (IPCC) in their 2022 report projects an increase of water-related hazards and threats to water availability and quality with and exacerbated by increased global warming. This affects agricultural and energy sectors, ecosystem

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[9] FAO and UN-Water. 2021. Progress on Level of Water Stress. Global status and acceleration needs for SDG Indicator 6.4.2, 2021. Rome.

[10] UNECE. 2009. Guidance on Water and Adaptation to Climate Change. New York, United Nations; See also interactive dialogue background paper 4 on water for cooperation

[11] International Water Association, 2022. Quantification and Modelling of Fugitive Greenhouse Gas Emissions from Urban Water Systems.

[12] UNGA resolution 71/276; A/71/644

[13] Systemic risk is associated with cascading impacts that spread within and across systems and sectors (e.g. ecosystems, health, infrastructure and the food sector) via the movements of people, goods, capital and information within and across boundaries (e.g. regions, countries and continents). The spread of these impacts can lead to potentially existential consequences and system collapse across a range of time horizons. See Briefing Note on Systemic Risk (2022)

[14] Disaster risk is a function of a hazard interacting with the continuously present conditions of exposure, vulnerability and capacity, and addressing these underlying factors is imperative to build resilience - see note 11

[15] UNDRR (2022). Global Assessment Report on Disaster Risk Reduction 2022: Our World at Risk: Transforming Governance for a Resilient Future. Geneva.

[16] *ibid*

[17] Sendai Framework Monitor; see also https://www.unisdr.org/2015/docs/climatechange/COP21_WeatherDisastersReport_2015_FINAL.pdf and https://www.ipcc.ch/report/ar6/wg2/downloads/report/IPCC_AR6_WGII_Chapter04.pdf

[18] Browder, Greg, et al. 2021. An EPIC Response: Innovative Governance for Flood and Drought Risk Management. World Bank, Washington,
DC. © World Bank. License: CC BY 3.0 IGO.

integrity as well as river basins dependent on snowmelt, glaciers, groundwater availability and surface water storage. The IPCC projects that an increase of global warming to 2 or 3ºC can cause direct flood damages that are 1.4 to 3.9 times higher than the 1.5ºC global warming scenario without adaptation. Moreover, even though most documented climate change adaptation measures respond to water-related risks and impacts, their effectiveness is hampered by increased global warming.[19]

10. Persons most at risk – including women, Indigenous Peoples, minority groups, youth, migrants and displaced people, persons with disabilities, older persons, and people living in poverty – are disproportionately affected by water-related disasters. This is compounded by factors such as age, gender, poverty, disabilities and cultural or ethnic background which increase their vulnerability to shocks and hazards.[20] Climate change, environmental degradation and disasters, caused by natural hazards, are also reshaping contemporary human mobility patterns around the world. In 2021 alone, there were 23.7 million new displacements related to disasters, 22.3 million of which were due to weather-related phenomena such as storms, floods and droughts. These impacts are expected to increase. Recent estimates for six world regions suggest that, unless action is taken, up to 216 million people could move internally within their countries by 2050.[21]

11. Terrestrial and freshwater ecosystems provide invaluable services for climate mitigation, holding more carbon than the atmosphere.[22] They are also invaluable for climate adaptation, acting as a critical buffer against the impacts of climate change and climate-related hazards.[23] Moreover, many climate mitigation measures depend on freshwater resources and impact freshwater resources.[24] Wetlands, for instance, store more than twice as much carbon as the world's forests, but are also disappearing three times as fast, leading to increased emissions.[25] Holistic, cross-sectoral and inclusive approaches are needed, such as source-to-sea, which aims to prevent unintended negative consequences while securing benefits between interconnected ecosystems.[26]

12. Water scarcity and pollution, droughts and floods contribute to reduced ecosystem functions and related ecosystem services and can increase the likelihood of pests and diseases. The predicted increase in frequency, severity and duration of droughts contributes to long-term degradation, aridification or desertification, disruption of societies and livelihood options.[27] Food and nutrition security are seriously impacted as about 70% of all freshwater withdrawals are used for agriculture globally, the percentage can reach more than 90% in agrarian economies.[28]

13. Up to a third of rivers in developing countries are considered at risk of serious pollution from pathogens, organic matter or salinity.[29] Heavily polluted rivers are an increasingly recognised source of emissions.[30] Freshwater biodiversity and species populations have been lost

[19] see note 4, p. 21
[20] OHCHR 2021
[21] IOM, 2022 People on the Move in a Changing Climate – Linking Policy, Evidence and Action
[22] IPCC, 2022: Summary for Policymakers. In: Climate Change 2022: Mitigation of Climate Change. Contribution of
Working Group III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change
[23] see note 4
[24] https://siwi.org/publications/essential-drop-to-net-zero-unpacking-freshwaters-role-in-climate-change-mitigation-report/; UNEP 2022. Blending Water Management and Climate Change Adaptation Approaches.
[25] UNEP Freshwater Strategy and Global Peatlands Assessment, 2022
[26] Granit. J., et al. (2017). A conceptual framework for governing and managing key flows in a source-to-sea continuum: A STAP Advisory Document. Global Environment Facility, Washington, D.C.
[27] UNDRR (2021). GAR Special Report on Drought 2021. Geneva.
[28] Rossi A, Biancalani R, Chocholata L. Change in water-use efficiency over time (SDG indicator 6.4.1): analysis and interpretation of preliminary results in key regions and countries. Rome: FAO, 2019.
[29] UNEP, https://www.unep.org/resources/publication/snapshot-report-worlds-water-quality
[30] Chapter 5 in Ingemarsson. M. L., et al.., 2022. The Essential Drop to Reach Net-Zero: Unpacking Freshwater's Role in Climate Change Mitigation. Stockholm International Water Institute, Stockholm

at a rate of 83% since the 1970s, faster than any other ecosystem being monitored.[31] These changes to freshwater ecosystems have downstream impacts on riparian ecosystems, resulting in biodiversity loss and reductions in food resources and carbon sequestration capacity. Improved water resources management and access to drinking water and sanitation are critical risk reduction, adaptation[32] and mitigation strategies, linking commitments to SDG 6 and other water-related goals.[33] About 90% of countries already prioritise action on water for adaptation in their Nationally Determined Contributions and nearly all National Adaptation Plans highlight water and sanitation as a priority sector.[34]

14. Human-induced climate change and environmental degradation are major contributors to the increased frequency and intensity of extreme events. For example, deforested slopes can reduce water retention in catchments, and can induce landslides, silting and flooding, while destruction or reclaiming of wetlands can worsen flooding.[35] As a consequence, nature's ability to help societies adapt to the impacts of climate change, including flood, sea level rise, drought, extreme heat and aridification, is being undermined.[36] Recognising the direct link between how human activities (e.g., spatial planning, land-uses, water uses, etc.) affect the vulnerability, exposure and coping capacity of systems, societies and communities, is therefore key to improving risk-informed decision-making for water.

15. The 27th Conference of the Parties of the United Nations Framework Convention on Climate Change (COP27) brought water discussions to the centre of the climate discourse, including through a dedicated Water Day, a Water Pavilion and the new "Action on Water Adaptation and Resilience (AWARe)" initiative that proposes and supports mutually agreed policies for cooperative water-related adaptation and its co-benefits, while causing no harm.[37] The Sharm el-Sheikh Implementation Plan acknowledges the critical role of protecting, conserving and restoring water systems and water-related ecosystems, including river basins, aquifers and lakes, in delivering climate adaptation benefits and co-benefits, including for mitigation. It further urges for the integration of water into adaptation efforts.[38] Further, the Sharm-El-Sheikh Adaptation Agenda recognises that 'to protect people we must protect nature', valuing nature as a solution to building resilience. The Agenda includes commitments on the protection (45 million hectares), sustainable management (2 billion hectares) and restoration (350 million hectares) of lands and inland waters, promoting Nature-based Solutions and ensuring respect for the rights of Indigenous Peoples and local communities.[39]

16. The recently adopted UN Environmental Assembly Resolutions on Nature-based Solutions, on Addressing Plastic Pollution, on Sustainable Lake Management and on Addressing Water Quality to Protect and Restore Water-related Ecosystems are important decisions that should be fully implemented.[40] In addition, the Kunming-Montreal Global Biodiversity Framework, in particular Targets 8 and 11, provides impetus for concrete target-setting and implementation of water-related SDGs and other universal global commitments linking climate change, disaster risk reduction, biodiversity and resilience. This builds on the biodiversity principles and safeguards presented in the voluntary guidelines for the design and effective implementation of ecosystem-based approaches to climate change adaptation

Resilience Centre, Potsdam Institute of Climate Impact Research, UNDP and Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH.

[31] WWF, Living Planet Index, 2022.

[32] see note 4

[33] UNEP, 2022. Blending Water Resources Management and Climate Change Adaptation Approaches.

[34] *ibid*

[35] see note 14

[36] *ibid*

[37] https://unfccc.int/sites/default/files/resource/AWARE_Initiative_at_COP27.pdf

[38] UNFCCC Decision xx/CP.27(2022). Sharm el-Sheikh Implementation Plan. UNFCCC COP27

[39] https://climatechampions.unfccc.int/wp-content/uploads/2022/11/SeS-Adaptation-Agenda_Complete-Report-COP27_FINAL-1.pdf

[40] UN Environment Assembly Resolutions, 5th session (March 2022).

and disaster risk reduction that were adopted by the Conference of the Parties to the Convention on Biological Diversity.[41]

17. Despite favourable developments at global level and although the need for coordination across sectors has been recognised as critical to ensure resilient economies and ecosystems, 50% of countries report that they do not have formal national mechanisms for cross-sectoral coordination in relation to water resources management and are mostly only undertaking ad-hoc collaboration.[42] Further, comprehensive climate and disaster risk management, reconciling national adaptation goals and disaster risk strategies to build resilience of people, economies and natural resources has been slow and piecemeal.[43] More systematic approaches are required to govern and manage water resources in the context of climate change, disaster risk and environmental decline.

18. The SDGs in focus in this paper – 6.5, 6.6, 7, 11.5, 14 and 15 - have only limited progress and fall behind other SDGs. The 2022 SDG Report[44] highlights that over 85% of the planet's wetland ecosystems have been lost over the past 300 years and over 733 million people continue to live in countries with high and critical water stress (SDG 6). Global temperatures continue to rise unabated and cause climate extremes and related disasters including water-related ones (SDG 13), while increased plastic pollution and global warming threating marine life (SDG 14). The report further notes that the threat of species extinction, deforestation and loss of biodiversity all continue to trigger climate change (SDG 15). Moreover, environmental indicators are often some of the further behind across the 2030 Agenda for Sustainable Development.[45] A positive trend can be noted for SDG target 11.5 with the number of countries with national disaster risk reduction strategies having nearly doubled in all regions since 2015.[46]

III. Opportunities for progress and transformative solutions through the lens of the SDG 6 Global Acceleration Framework

The SDG 6 Global Acceleration Framework aims to deliver fast results at an increased scale. Opportunities for progress and transformation will be addressed through the lens of the five cross-cutting and interdependent accelerators: Financing, Data and information, Capacity development, Innovation, and Governance. The accelerators are meant to be action-oriented and inclusive of multiple stakeholders. The transformative solutions presented here are not meant to be exhaustive, but highlight some of the most promising opportunities for overcoming challenges in the area of water for climate, resilience and the environment and building synergies.

Financing

19. **Leverage available funding streams and opportunities** - Global estimates for financing needs for water-related investments to achieve SDG 6 range from US$ 6.7 trillion by 2030 to US$ 22.6 trillion by 2050.[47] Investments are needed not only to build new infrastructure but also to maintain, operate and increase the resilience of existing facilities to better ensure the sustainable management of water

[41] decision 14/5: https://www.cbd.int/doc/publications/cbd-ts-93-en.pdf
[42] UNEP 2021. Progress on Integrated Water Resources Management. Tracking SDG 6 series: global indicator 6.5.1 updates and acceleration needs.
[43] UNDRR (2021) "Promoting Synergy and Alignment Between Climate Change Adaptation and Disaster Risk Reduction in the Context of National Adaptation Plans: A Supplement to the UNFCCC NAP Technical Guidelines", United Nations Office for Disaster Risk Reduction
[44] see note 1
[45] UN Environment Programme, 2021. Measuring Progress: Environment and the SDGs. At
[46] UNDRR (2020), Status Report on Target E Implementation, Geneva, Switzerland, United Nations Office for Disaster Risk Reduction
[47] OECD (2022), Financing a Water Secure Future, OECD Studies on Water, OECD Publishing, Paris

resources. For the interconnected challenges of climate, resilience and the environment, addressing the financing challenge is not merely about getting more funding to invest in water infrastructure; it is also about quantifying the multiple benefits and making the best use of available and incoming financial streams and opportunities, such as for climate change adaptation and mitigation funding as well as nature-based and hybrid solutions. Identification, mapping and alignment of existing water-related initiatives, programmes and projects, and planning new integrated projects synergistically, could facilitate allocation of scarce resources and time and cost-effective implementation.

20. **Take advantage of blended and innovative finance by highlighting water as a lever for climate and sustainability** – As of 2018, nearly 93% of climate financing went towards mitigation measures, but less than 1% of that amount went to water projects. At the same time climate adaptation financing is set to increase from 7 to 50% of the total.[48] Mitigation finance made up 58% of public and 86% of private climate finance as of 2020.[49] There are important opportunities, as many water management interventions (e.g., wastewater management, climate smart agriculture, nature-based solutions, including hybrid infrastructure, etc.) contribute to both mitigation and adaptation and could qualify for mitigation funding by highlighting co-benefits. Water-related initiatives must therefore seize the opportunity to demonstrate their contribution to both sustainability and climate objectives (mitigation, adaptation, resilience) to mobilise related funding. The benefits of initiatives in the water sector can further be bolstered by sharing risks and revenues across public and private financiers (philanthropy, governments, and the private sector). Such blended financing can help attract other, long-term sources of finance and encourage greater uptake of water and climate-smart solutions by "softening" the transition towards integrated solutions. Finally, supported by reforms in multilateral development banks, approaches such as special drawing rights, green and blue bonds and debt-for-nature swaps, among others, could be further streamlined and promoted with consideration of unique country circumstances.

21. **Unlock national finance for resilience and deliver at local level** - Governments and regulators must consider resilience in their planning and operational activities, and allocate available finance to those most in need and who contribute most to water conservation.[50] For instance, Indigenous Peoples preserve 80% of the world's remaining biodiversity but little of the funding allocated to them actually reaches them.[51] Part of targeting finance for resilience includes shifting investment time horizons, budgetary approaches, and planning processes from short-term, fragmented approaches to holistic and integrated strategies[52] by, for example, assessing investments using a source-to-sea and/or systemic risk lens that encompasses ecosystems and all sectors, and by downscaling and tailoring financing mechanisms and impact investments to reach persons most at risk.[53] Where source-to-sea approaches extend beyond national jurisdictions and touch on multiple countries, that perspective must also encourage transboundary cooperation.[54] Tools exist to overcome common finance barriers in transboundary approaches.[55]

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[48] See table A.2 from CPI, 2020. Updated View of the Global Landscape of Climate Finance 2019 [Rob Macquarie, Baysa Naran, Paul Rosane, Matthew Solomon, Cooper Wetherbee]. Climate Policy Initiative, London.

[49] see note 48

[50] *ibid*

[51] https://www.iisd.org/system/files/2022-04/still-one-earth-Indigenous-Peoples.pdf; Rainforest Foundation Norway (2020). *Falling short: Donor funding for Indigenous Peoples and local communities to secure tenure rights and manage forests in tropical countries (2011–2020)*. Rainforest Foundation Norway: Oslo, Norway.

[52] Nature for Water: A Series of Utility Spotlights, IWA, 2019

[53] Hutton G. (2022), SDG6 Global financing needs and capacities to ensure access to water and sanitation for all, in Leflaive X., Dominique K., Alaerts G. (eds), Financing Investment in Water Security. Recent Developments and Perspectives, Elsevier

[54] See a case study on transboundary cooperation: United Nations Environment Programme (2022). *Mainstreaming Flood and Drought Management in the Lower Mekong River Basin*.

[55] UNECE (2021). Funding and Financing of Transboundary Water Cooperation and Basin Development,

22. **Strengthen policies and regulatory frameworks for investments** - Water-related investments are more likely to materialise where robust water policies, regulations and institutional arrangements have been put in place as well as a policy framework for investment, which dictates the availability and allocation of (domestic and foreign) private finance. The lack of such arrangements in a vast majority of countries limits the scalability and replicability of successful pilot projects.[56] Policy and regulatory frameworks are also required to ensure that investments in water infrastructure properly factor in disaster risks and incorporate resilience-building measures, such as those put forward by the Principles for Resilient Infrastructure.[57] In addition, incentives and regulation would enable redirecting investments towards climate-smart and nature-positive investments. Target 18 of the Kunming-Montreal Global Biodiversity Framework is an example of the necessary political commitment. It calls for the elimination, phase out or reform of incentives, including harmful subsidies, freeing up at least US$ 500 billion per year.[58]

23. **Risk analysis and risk transfer -** Financial markets fail to properly value water-related investments, incorporate the systemic nature of water risks, including avoidance of future liabilities and redirecting financial flows that increase exposure and vulnerability to water risks. A 2019 report from the Network for Greening the Financial System suggests that many financial institutions underestimate their exposure to water risks.[59] Disclosure of firm-level data on exposure and vulnerability to water risks[60] is a significant development in this regard. Risk transfer is another important area for consideration. Innovative insurance schemes are incentivizing a range of actors to invest in becoming "climate (and water) smart"[61] as well as in increased resilience.

24. **Value and invest in nature** – The adoption of global standards for ecosystem accounting through the System of Environmental Economic Accounting - Ecosystem Accounting (SEEA-EA), which allows for the valuation of ecosystems and their diverse benefits, and other valuation efforts, has the potential to better inform planners and policy makers of the true value of ecosystems when faced with competing and complex development decisions (i.e., the choice between grey infrastructure, nature-based solutions and/or hybrid solutions), and can facilitate carbon and biodiversity offset schemes for finance.[62]

Data and information

25. **Enhance spatial and temporal monitoring and water data and information management for quantity and quality** - More comprehensive, connected and harmonized water resources data and information at the local, regional and global scales should support decision-making related to climate change and other environmental and societal changes. The State of the Global Water Resources 2021 report highlights the lack of accessibility and availability of

UNECE publishing
[56] see note 48
[57] https://www.undrr.org/publication/principles-resilient-infrastructure
[58] https://www.cbd.int/doc/c/e6d3/cd1d/daf663719a03902a9b116c34/cop-15-l-25-en.pdf
[59] https://www.cbd.int/waters/doc/gbo5-inlandwaters-en.pdf; https://cdn.cdp.net/cdp-production/cms/reports/documents/000/005/741/original/CDP-Financial-Services-Disclosure-Report-2020.pdf?1619537981; CDP 2021 Climate Change data set
[60] See also the Recommendations by the Task Force on the Climate-related Financial Disclosures of the Financial Stability Board, the Network for Greening the Financial System (NGFS) and recent work of Alice Martini.
[61] https://news.climate.columbia.edu/2019/06/20/climate-change-economy-impacts/#:~:text=The%20sector%20most%20vulnerable%20to,these%20effects%20could%20be%20big.; https://siwi.org/wp-content/uploads/2018/12/Unlocking-the-potential-of-rainfed-agriculture-2018-FINAL.pdf
[62] United Nations et al. (2021). System of Environmental-Economic Accounting— Ecosystem Accounting (SEEA EA). White cover publication, pre-edited text subject to official editing.

verified hydrological data.[63] National Hydrological and Meteorological Services urgently need improved capabilities to provide hydrological status assessments and outlooks as a basis for improved water management, which requires sharing of hydrological and related data, ideally following WMO's Unified Data Policy. Global monitoring efforts on SDG 6 targets offer opportunities for addressing data and information challenges. However, more systematic capacity building and institutional strengthening is required to increase risk understanding on water-related issues and improve the frequency, consistency, comparability, accessibility and uses of relevant data from a range of sources.

26. **Strengthen risk knowledge and understanding** - Countries have highlighted inadequate risk knowledge as a key bottleneck to strengthening early warning systems.[64] The risk data ecosystem needs to be strengthened through better risk analyses and tracking of losses and damages to be able to manage water-related disasters. Data on water-related losses and damages will be critical to informing the funding arrangements as agreed at COP27. Data sharing, both within and among countries, needs to be promoted. Monitoring of implementation and efforts to build resilience should be enhanced through reporting mechanisms of SDGs, Sendai Framework and related initiatives. Measuring what we value, risk-informing decisions, and tracking progress in resilience building, are critical to sustainable development.

27. **Global science-based assessment on water** - Political processes should be informed by science and evidence. Experiences from IPCC and IPBES demonstrate the strength of data, science and collaboration between scientists in increasing knowledge and understanding on climate change and biodiversity and calling attention to pressing global challenges. More recently, they have also started exchanging knowledge, building synergies between climate change and biodiversity by taking a topical approach, considering for instance nature-based solutions and resilience/risk.[65] Building on the experiences of these well-established assessment reports, a global science-based assessment on water would provide state-of-the-art science and analysis to address interdependent water challenges and support coordinated land, coastal and freshwater management in national climate change and disaster risk reduction planning to maximise system-wide benefits.

28. **Heightened focus on groundwater and cryosphere data and information** - Data and information on groundwater are particularly lacking as it is difficult to generate, but groundwater is a vitally important source, providing around half of the world's total drinking water and support ecosystems.[66] Investments in data on groundwater dynamic, volume and identification of recharge areas at national level are critical. Data and information on cryosphere (glaciers, snow cover, ice cap and permafrost) are also desperately needed, as the cryosphere provides the largest natural storage of freshwater at global scale.[67] Data and information that crosses the traditional land, freshwater, coastal and marine boundaries will further build understanding of source-to-sea linkages and how they respond to changes in parts of the source-to-sea system across sectors.

29. **Early warning systems (EWS)** - To minimise climate-induced losses and damages, anticipating predictable shocks and stresses and acting ahead of time is crucial. Growing evidence shows that early warning and anticipatory action approaches are more effective in saving lives and livelihoods than post-facto response. Currently, data and information in the water sector is fragmented and often not quality assured, has large gaps, and is partially inaccessible, especially for populations highly exposed to water-related hazards. Hydrological

[63] World Meteorological Organization, 2022: The State of the Global Water Resources 2021.
[64] UNDRR and WMO (2022) "Global status of multi-hazard early warning systems: Target G", United Nations Office for Disaster Risk Reduction. Geneva
[65] https://ipbes.net/sites/default/files/2021-06/20210609_workshop_report_embargo_3pm_CEST_10_june_0.pdf
[66] Smith, M., et al. 2016. Spring — Managing groundwater sustainability. IUCN, Gland, Switzerland.
[67] Hock, R., et al. (2019). High mountain areas. In H.-O. Prtner, D. C. Roberts, V. Masson-Delmotte, P. Zhai, M. Tignor, et al. (Eds.), Special report on the ocean and cryosphere in a changing climate: IPCC

data is not made publicly available in approximately 67% of the 101 countries that provided data. End-to-end[68] flood forecasting and warning systems are absent or inadequate in 34%, and end-to-end drought forecasting and warning systems are lacking or inadequate in 54% of countries that provided data.[69] Also, the effects of water-related hazardous events (e.g. droughts, floods, saltwater intrusion, landslides, pollution, algal blooms, chemical spills, etc.) need to be monitored and be included in multi-hazard early warning Systems (MHEWS). MHEWS provide an integrated system that should draw on data and information from the water sector to increase climate resilience. Yet, only 95 countries reported that they have MHEWS in place, amounting to less than half of the countries globally. MHEWS may fail due to gaps in the warning chain or because the recipients of the warning are not prepared to react adequately. Coverage is particularly low in Small Island Developing States (SIDS), Least Developed Countries (LDCs) and in Africa.[70] MHEWS need to be designed and established in an integrated manner and include information on ecosystems and water resource conditions, in addition to data on socio-economic factors contributing to vulnerability. Early warning systems should be supported by multi-hazard disaster risk governance and integration of risk reduction measures across sectors.

30. **The power of Earth Observation** - Accelerating digital transformation, through remote sensing and satellite imagery data holds great potential for transforming how data and information is generated and accessed and used for monitoring and reporting on water bodies.[71] Earth Observation increasingly enables innovative water and decision information systems across scales. This will offer more opportunities for neutral, reliable and transparent data and information gathering and sharing, essential for ensuring sustainable water management and close data and information gaps, Field observation, however, will remain essential to 'ground-truth' Earth Observation data.

Capacity development

31. Capacity development is a cross-cutting theme across all SDG 6 accelerators. Without the institutional and human capacity to address the complex and interdependent challenges of climate change, disaster risk reduction and environmental degradation and their impacts on water, it will be difficult to achieve the SDGs or other relevant international goals and targets.[72]

32. Transformational alliances, methods and approaches - Institutional and human capacity development that is inclusive, enables innovation, including the use of artificial intelligence, virtual reality and digital learning, and new forms of collaboration, is needed to provide the space for complex and synergistic problem solving to adequately address climate, resilience and environmental challenges related to water. Youth, women, Indigenous Peoples and other persons most at risk have an important role to play and offer knowledge, expertise and insights that are invaluable for addressing water-related systemic risks, including human-induced climate change and biodiversity loss.

33. **Citizen science and involvement** - Co-creation, citizen and open science are already proving to be effective tools to address climate and resilience challenges, including on water. Scientific tools and other social applications should be developed to encourage citizen participation to improve water management, such as integrating modern science with ancestral,

[68] End-to-end connects disaster risk knowledge, observations, monitoring and forecasting systems, warning dissemination mechanisms, and preparedness and response capability; see note 65.; WMO (2022) Early Warnings For All: Executive Action Plan 2023-2027
[69] World Meteorological Organization 2021: 2021 State of Climate Services - Water
[70] see note 65.; WMO (2022) Early Warnings For All: Executive Action Plan 2023-2027
[71] https://www.nature.com/articles/d41586-022-04455-0
[72] Mizan R. Khan, et al. 2018. Evaluation of programmatic programs indicates greater impact when coupled with capacity building. The Paris Framework for Climate Change Capacity Building

Indigenous Peoples' and local knowledge[73] about water and climate conditions as well as data and information related to risk knowledge. Innovative capacity development programmes that involve diverse actors at all levels, consider different sources of knowledge and data and adopt transdisciplinary approaches can better address interdependent, complex and interconnected water challenges. The World Water Quality Alliance and Adopt-a-River initiatives are examples of engaging citizen scientists and spurring citizen action.

34. **Green jobs and a skilled workforce of water professionals** - Sustainable water management offers and maintains job opportunities to sustain livelihoods. Without investments in the capacity to manage water resources sustainably, many of these jobs may be lost with devastating consequences for entire regions and communities.[74] At the same time, water professionals need to develop skills that enable them to address the complexity of interdependent challenges, while translating science-based solutions to locally defined actions through training of local stakeholders. Young water professionals, in particular, need support to pursue water-related careers and navigate the interdependent challenges of climate change, disaster risk reduction and biodiversity loss through a water- and risk-lens.[75] Relatedly, integrated approaches, including nature-based solutions for water, offer considerable opportunities for job creation that require a new combination of skills and professions with high potential to attract youth, while complementing existing livelihoods in rural areas.

Innovation

35. **Create the enabling conditions for innovation** – Investments in solutions and technologies that can help to better manage water resources and facilitate both adaptation to and mitigation against climate change originate under conditions that stimulate innovation supported by enabling policies and regulations.[76] An enabling policy and regulatory environment that facilitates technology transfer, rewards and creates a market for innovation further supports channeling investments towards integrated solutions that tackle climate change adaptation and mitigation and help overcome systemic risks, while providing environmental, social and economic benefits. Legal and policy frameworks should be backed by public support and consultation. They can help elevate the role of water resources in climate mitigation and for disaster risk reduction as well as promote innovative and alternative solutions, such as nature-based or hybrid solutions and circular economy.

36. **Adapt innovations to local contexts** – The deployment of innovative practices and technologies can be complex and dependent on local conditions. This includes increasing visibility, knowledge-sharing and uptake by making the business case for local water management solutions between countries and contexts that respond to historical, cultural, local, traditional and Indigenous Peoples' knowledge. The communities affected by climate change need to feel ownership over their own water management such that they are able to design workable and sustainable solutions that incorporate their experiences and knowledge in building resilience. For example, in relation to adaptation technologies, if not properly assessed within the particular context, deployment of technologies may lead to maladaptation with potential detrimental effects on other population groups or activities.

[73] Early Warnings for All: Executive Action Plan 2023-2027
24- UNESCO-IHP (2021) "IHP-IX Strategic Plan of the Intergovernmental Hydrological Programme: Science for a Water Secure World in a Changing Environment"
[74] WWF and ILO (2020). Nature Hires: How Nature-based Solutions can power a green jobs recovery. World Wide Fund For Nature, Gland, Switzerland and International Labour Organization, Geneva, Switzerland
[75] Valuing Water Initiative - Youth Journey
[76] WIPO (2022). Global Innovation Index 2022. What is the future of innovation-driven growth,2021, Geneva: World Intellectual Property Organization (WIPO).

37. **Leverage existing promising solutions and innovations** - Numerous and diverse options that provide multiple benefits are already available.[77] Among them zero-energy wastewater treatment and other energy saving techniques that equate to greenhouse gas emission reductions as well as nature-based solutions for climate change and disaster risk reduction.[78] Many of these options are also no-regret solutions which enable progress towards sustainable development in the water sector in conditions of uncertainty of the local impacts from climate change.[79]

38. **Leverage information and communication technologies (ICTs)** – ICTs, such as mobile phone apps, offer a vast potential for monitoring environmental conditions and water-related disasters, such as floods and droughts, providing data and information for early warnings and alerts, and in the immediate aftermath of disasters ensuring timely communication and access to information. The growing number of services and users enables broad-based, targeted and inclusive delivery of alerts to populations at risk. Use of increasingly accessible technology for collecting, monitoring, and sharing water-related data can also leverage the participation of millions of people to collect and share data and information that helps identify risks or expose illegal activities (i.e., dumping of pollution, excess water extraction, etc.).[80] Such techniques are also educational and improve awareness of problem areas, teaching people how to recognise risks, monitor and report them.

Governance

39. **Convergence of intergovernmental processes and agendas** - To achieve convergence between global processes, decisions and commitments, countries should build upon and link the water, resilience and environmental initiatives at conferences of the parties (COPs) for climate change, biodiversity, wetlands and desertification; and at relevant global decision-making bodies, such as the UN General Assembly and the UN Environment Assembly. Further, the ongoing Midterm Review of the Sendai Framework provides opportunities for synergies and alignment.

40. **Strengthen integrated water resources management (IWRM) and promote governance at scale** - Holistic, cross-sectoral perspectives, such as IWRM, should be mainstreamed into development, climate, disaster, environmental and economic planning strategies or policy frameworks at all levels. IWRM in combination with source-to-sea management, transboundary governance, integrated coastal zone management, sustainable land and seascape management, spatial planning, and other related management approaches produces long-term viable solutions that ensure multistakeholder participation and address multiple threats and development challenges simultaneously, including through increased coordination and governance at scale across institutions, sectors and public uses. Considering the connectivity of upstream and downstream activities and their impacts on ecosystem processes and actors helps to take decisive action to reduce disaster risks, loss and damage, and achieve benefits across the 2030 Agenda, including for building climate resilience, mitigating greenhouse gases and protecting biodiversity. IWRM linkages and importance to climate adaptation planning are becoming more evident and practical. In particular, adaptation initiatives can be fast-tracked and made more cost-efficient by taking advantage of established and trusted IWRM frameworks, building on multi-sectoral planning and implementation approaches developed over decades through the IWRM approach to address and reduce risks in a systemic way.[81] However, the

[77] WIPO, 2020: Innovative Technology in the Water, Sanitation and Hygiene (WASH) Sector
[78] UNDRR (2021). Words into Action: Nature-based Solutions for Disaster Risk Reduction. UNDRR: Geneva, Switzerland.; UNEP CBD (2018). Voluntary guidelines for the design and effective implementation of ecosystem-based approaches to climate change adaptation and disaster risk reduction. CBD/SBSTTA/22/INF/1
[79] WIPO (2022). Green technology book 2022. Solutions for climate change adaptation. Geneva: World Intellectual Property Organization.
[80] Catchment Based Approach: Citizen Science Monitoring App
[81] UNEP 2022. Blending Water Management and Climate Change Adaptation Approaches.

average country rate of implementation of IWRM – to support climate adaptation and mitigation, build resilience, and manage ecosystems – needs to double to get near the 2030 target for SDG target 6.5.[82] This should be accompanied by commensurate investment especially in Small Island Developing States (SIDs) and Least Developed Countries (LDCs) as recommended in the 2021 State of Climate Services report.[83]

41. **Comprehensive risk management and integrated policymaking** – Mainstreaming water into Nationally Determined Contributions (NDCs) and National Adaptation Plans (NAPs), which are at the heart of the Paris Agreement and the achievement of its long-term goals, not only ensures that the role of water for climate change and resilience building is recognised, but also enhances coordination across sectors and policy domains. Comprehensive risk management (CRM)[84] is one approach to achieve convergence between NAPs and national and local disaster risk reduction strategies. CRM enables to systematically address climate change through risk assessments with a focus on water-related hazards (floods, droughts, etc.). Moreover, CRM encourages and facilitates cooperation between authorities.

42. **Promote nature-based solutions (NbS)** - Ecosystem health and NbS are important connectors between national adaptation goals, resilience building and human wellbeing. NbS[85] for climate change mitigation and adaptation as well as disaster risk reduction have received endorsement in major global political negotiations (including in the context of the Rio Conventions, the Ramsar Convention, UN Environment Assembly, to name a few) due to their cost-effective nature and multiple benefits for the environment, biodiversity, societies, livelihoods and economies. They help regulate water flows and groundwater tables, improve water filtration and thus water quality, store carbon and serve as natural defence systems.[86] For instance, the 2021 Dasgupta Review highlights the disaster risk reduction benefits derived from wetlands during hurricane Sandy in 2012. It is estimated that more than US$ 625 million in flood damages could be avoided.[87] To take advantage of the full potential of NbS, policies, safeguards and procurement processes need to support the integration of NbS into water resource supply and management, climate mitigation and adaptation planning, and disaster risk management.

43. **The role of local communities and Indigenous Peoples** - Of particular importance to strengthening environmental governance is the inclusion and empowerment of local communities and Indigenous Peoples in decision-making and benefit-sharing around water and its related ecosystems.[88] These principles are at the heart of funds, projects and other efforts to advance nature-based solutions. These protect and restore ecosystems and their services for benefits for societies, economies and the environment including climate.[89]

IV. Recommendations

44. Urgent actions in the short-term and transitions of systems over the longer-term are required to mitigate and adapt to climate change, reduce disaster risks, prevent ecosystem

[82] All facts in this bullet, up to here, from: UNEP 2021. Progress on Integrated Water Resources Management. Tracking SDG 6 series: global indicator 6.5.1 updates and acceleration needs.
[83] see note 70
[84] UNDRR (2022) “Technical Guidance on Comprehensive Risk Assessment and Planning in the Context of Climate Change”, United Nations Office for Disaster Risk Reduction
[85] UNEA, 2022. Nature-based solutions for supporting sustainable development. UNEP/EA.5/Res.5
[86] UNDRR (2021). Words into Action: Nature-based Solutions for Disaster Risk Reduction. Geneva.; UNEP CBD (2018). Voluntary guidelines for the design and effective implementation of ecosystem-based approaches to climate change adaptation and disaster risk reduction. CBD/SBSTTA/22/INF/1
[87] Dasgupta, P. (2021), The Economics of Biodiversity: The Dasgupta Review. (London: HM Treasury)
[88] FAO and FILAC. 2021. Forest Governance by Indigenous and Tribal People. An Opportunity for Climate Action in Latin America and the Caribbean. Santiago.
[89] https://www.unep.org/explore-topics/climate-action/what-we-do/climate-adaptation/ecosystem-based-adaptation

degradation and loss, and build lasting resilience for societies, economies and the environment. Holistic water governance and management approaches that consider the linkages between ecosystems from source-to-sea, ensure convergence between international processes, and foster cross-sectoral collaborations are necessary to:

- manage changes in hydrology related to precipitation, evaporation, glacial melt, groundwater depletion, permafrost, etc.;
- address multiple compounding and cascading risks resulting from water-related hazards and interacting climatic and non-climatic risks that transcend sectors and geographies;
- innovate to tackle emerging risks and vulnerabilities to climate hazards; and
- halt irreversible losses in terrestrial, freshwater, coastal and marine ecosystems.

The following three recommendations are proposed to accelerate achievement of water goals and enable better water outcomes to contribute to climate, resilience and environment objectives:

Recommendation 1: "Inter-COP" process to connect, integrate and fully implement water-related decisions made at global assemblies, conventions and frameworks dedicated to climate, resilience and the environment

45. Moving from agreement to implementation will be key to delivering on the ambitious water-related commitments made in recent years at the UN General Assembly, the UN Environment Assembly, the UN Framework Convention on Climate Change, the Convention on Biological Diversity, the UN Convention to Combat Desertification and the Sendai Framework for Disaster Risk Reduction 2015-2030 and other related intergovernmental processes.

46. To achieve convergence, Member States must build upon, implement and link water-related climate, resilience and environmental initiatives at conferences of the parties and intergovernmental processes for sustainable development, climate change, disaster risk reduction, biodiversity, the environment and desertification. An "inter-COP" process joining related parallel processes, would support implementation of interconnected water-related goals at national level and facilitate a more synergistic and focussed discourse on how to achieve convergence for integrated policies and actions on water, climate change, disaster risk reduction, biodiversity conservation and resilience building. An "inter-COP" process would enable actions towards policy alignment in political negotiations and promote multilateral cooperation on the implementation of global frameworks.

47. Member States and stakeholders should also utilise ongoing processes to ensure convergence. The ongoing Midterm Review of the Sendai Framework provides an opportunity for ensuring alignment between the deliberations at the UN 2023 Water Conference and the political declaration guiding the implementation of the second half of the Sendai Framework. Moreover, Member States should capitalise on upcoming UN Environment Assemblies, the Global Stocktakes of the Paris Agreement and the Sustainable Development Goals to reinforce multilateral cooperation and the call to action for cross-sectoral, integrated approaches at scale implemented in partnership through a whole-of-government and whole-of-society approach. UN-Water can be called upon to encourage collaboration among its Members and Partners on common initiatives, and maximise interagency work to support this process.

48. Integrated Water Resources Management (IWRM) approaches should be fully implemented. IWRM mechanisms and tools should be strengthened to link to and operationalise other processes related to disaster risk reduction, sustainable development and climate change, with a particular focus on adaptation. Furthermore, they should enable nature-based solutions (NbS) initiatives through its participatory approaches to include vulnerable, Indigenous Peoples and local communities, UN country teams, basin management authorities and decision-making ministries, including those for finance and national planning or budgeting. IWRM needs to be

backed by legislation and governance structures to make freshwater protection more durable.[90] while simultaneously achieving other sustainability objectives. IWRM should also be linked to other related processes such as Climate Change Adaptation Planning, Source-to-Sea Planning, Integrated Coastal Zone Management, Landscape Planning to better operationalise and mutually strengthen each approach in a meaningful and tangible way for actors on the ground in terms of food and energy security, economic opportunities, health, access to financial resources, and partnership building across sectors and related stakeholders.

Recommendation 2: Global water information system for improved water management, climate resilience, early warning and risk-informed decision-making

49. A global water information system will change the game on how we prepare for the impacts of climate change, manage water resources sustainably, and build resilience. With the impacts of climate change mainly being felt through water and to an accelerating extent, we need to better understand the current status and future conditions of water resources in relation to climate change and other environmental and societal changes. Decision makers need to have reliable information to ensure water is available, of sufficient quality and quantity and adequately allocated across sectors. Data and information on water as well as risk knowledge are also needed to ensure equitable access to water resources as well as to protect people and economies from related disasters and pollution. A global water information system is needed to provide information on the status and outlook, and to support multi-hazard early warnings.[91] Early warning for all has to be a key priority, in particular for floods, droughts and other water-related hazards alongside the deployment of nature-based solutions in disaster risk reduction strategies.

50. The UN Secretary-General's call to action on Early Warning for All by 2027 needs this global system to enhance knowledge on risks, impacts, consequences and available response options (multi-hazard and "end to end approach"), as well as increase capacities to anticipate and manage disaster risks across scale.[92] Early warning for all has to be a key priority, in particular for floods, droughts and other water-related hazards alongside the deployment of nature-based solutions in disaster risk reduction strategies.

51. Water information systems need to be based on open, inclusive and interlinked information to better manage the resources and reduce disaster risks. More comprehensive, connected and harmonized water-related data at the local, regional and global scales will improve our understanding on how much and in what quality water is and will be available in a given time and location. The data and information should be made accessible to all through a transparent system of data sharing based on a unified policy.[93]

Recommendation 3: Environmental Economic Accounting to unlock investments for water-related climate and environmental resilience building

52. The application of the System of Environmental Economic Accounting - Ecosystem Accounting (SEEA-EA) that is linked to national accounting will help make the case for investments in sustainable and resilient water infrastructure, nature-based solutions and/or hybrid options to address water-related climate and disaster risks. Furthermore, SEEA-EA can help to set clear and measurable targets for freshwater ecosystems, considering wider ecosystem functions.

53. Valuing and accounting for ecosystems paves the way for understanding and investing in them as nature-based solutions, demonstrating co-benefits for both climate mitigation and adaptation, as well as additional benefits, such as job creation, recreation and tourism, better human health outcomes, protection of cultural values, etc. Many water management interventions (e.g., wastewater management,

[90] https://www.mdpi.com/2071-1050/13/4/1950.
[91] Early Warnings for All: Executive Action Plan 2023-2027
[92] Early Warnings for All: Executive Action Plan 2023-2027
[93] WMO Unified Data Policy, 2022

climate smart agriculture, forestry and other ecosystem restoration or protection measures) have mitigation potential and could qualify for mitigation funding. Highlighting the benefits and co-benefits of water and water ecosystem management would allow for more targeted climate finance and raise awareness for the role of water for both climate mitigation and adaptation as well as resilience building, for example through wetland preservation, restoration and construction.

54. Similarly, expedient action on nature-related financial risk disclosure in corporate reporting is a necessary and significant opportunity to the reduction of negative impacts on freshwater ecosystems. Action should build on the Task Force on Climate-related Financial Disclosures[94], the Taskforce on Nature-related Financial Disclosures, the International Sustainability Standards Board and other initiatives as well as implement Target 15 of the Kunming-Montreal Global Biodiversity to increase companies' contribution towards resilience building.

V. Guiding Questions

The following questions guide the interactive dialogue.

- How do we ensure that water is a lever for transformative and sustainable development in the face of climate change, increased systemic risk and biodiversity loss? What are practical examples of linking water, climate, resilience and environment?

- What opportunities can we capitalise on to strengthen convergence between intergovernmental processes for water, climate change, disaster risk reduction, biodiversity, the environment, and desertification? Why has progress been so slow and what kind of processes (e.g., an "inter-COP" process) are needed to increase synergies between the various related frameworks at global and national level?

- What are the barriers to providing data and information for improved water management, climate resilience, early warning systems and risk-informed decision-making? What is needed for water-related data and information to be available and understood by all? How can we ensure that data and information on floods, droughts and other water-related hazards are fully integrated in MHEWS and in disaster risk reduction strategies and policies?

- How will ecosystem and nature be better valued and their protection incentivized? What kind of guidance could be developed to adjust tools for economic analysis (CBA, EIA, due diligence, modelling) so that they reflect the multiple values of water, uncertainties about future water availability and demand, and exposure and vulnerability to water risks?

- How can we fully integrate IWRM approaches and utilise them to advance related outcomes, including climate adaptation and nature-based / ecosystem-based and hybrid approaches? What practical examples demonstrate integrated governance at scale?

[94] https://www.fsb.org/2021/10/2021-status-report-task-force-on-climate-related-financial-disclosures/