



**Intergovernmental Hydrological Programme**  
of the United Nations Educational Scientific and Cultural Organization

**The Intergovernmental Hydrological Programme's input**  
**to the**  
**High-level Political Forum on Sustainable Development**  
**in July 2024**

**Intergovernmental Hydrological Programme (IHP) input**  
**High-level Political Forum on Sustainable Development (HLPF)**  
**in July 2024**

**a) Impacts of multiple crises on the implementation of SDGs 1, 2, 13, 16 and 17 from the vantage point of your intergovernmental body.**

As multiple crises threaten the implementation of SDGs, there is need for more science; more scientific knowledge, methodologies and tools, innovations and new technologies if any meaningful global progress is to be realized. The accelerated impacts of multiple crises have slowed down the implementation of SDGs, considering the limited coordinated partnerships, investments and resources, and the threat of climate change, which might reverse the progress so far made. This is the case considering the SDGs inter-linkages and integrated nature and impacts on the three dimensions of sustainable development: the economic, social and environmental.

The UNESCO Intergovernmental Hydrological Programme (IHP) facilitates and encourages holistic hydrological scientific research, innovation and knowledge generation, development and deployment of methodologies and tools to assist Member States in dealing with the overarching impacts of multiple crises through science and innovation, research, capacity building, training activities and provides policy advice for implementation. However, IHP's efforts and that of the broader hydrological science community have been challenged by limited resources amidst multiple crises. The slowed down investments in science is impacting generation of scientific knowledge, and development of tools and methodologies and the delivery of capacity building initiatives and training that underpins society's ambition to implement the 2030 Development Agenda.

Despite these challenges, currently at its ninth phase (IHP-IX, 2022-2029), IHP puts science into action for a Water Secure World, in a Changing Environment. IHP focus on science action for a water secure world contributes to the implementation of all SDGs. This is the case considering that water is arguably known to be a 'deal maker' at the epicenter of all SDGs and the "climate connector" that allows for greater collaboration and coordination across the majority of targets for climate change (Paris Agreement), sustainable development (2030 Agenda and its SDGs), and disaster risk reduction (Sendai Framework).

Scientific innovation is indispensable for addressing climate change (SDG 13 Climate Action). The world cannot solve poverty (SDG 1) and hunger (SDG 2) without the underlying science and a thorough understanding of the problem and specifically in relation to water. IHP, together with the UNESCO Water Family, including National Committees, scientific networks, Centres under UNESCO's auspices, UNESCO Chairs and Initiatives, strives to deliver scientific innovation, research and knowledge towards the accelerated implementation of SDGs. By supporting transboundary water cooperation IHP IX also support the crucial aspect of preventing disputes over water resources, building a foundation for long-term peace and stability. As it promotes shared management and protection of water resources, transboundary water cooperation facilitates the development of resilient water management strategies that can adapt to the impacts of climate change and increase food security. All these aspects are directly linked to SDGs 1, 2, 13, 16 and 17.

- b) **Three key areas where sustainable, resilient and innovative solutions for achieving the SDGs are being effectively delivered, especially related to the cluster of SDGs under review in 2024, considering the three dimensions of sustainable development and the interlinkages across the Goals and targets.**

UNESCO-IHP has been contributing to the implementation of the SDGs 1, 2, 13, 16 and 17 under review in 2024 through the following streams:

**1. IHP-IX (2022-2029) “Science for a Water Secure World in a Changing Environment”**

The IHP-IX puts science to action for a Water Secure World, in a Changing Environment. The main focus is on five interrelated Priority Areas: Scientific Research and innovation; Water education in the Fourth Industrial Revolution including Sustainability; Bridging the data-knowledge gap; Inclusive water management under conditions of global change; **Water governance based on science for mitigation, adaptation, and resilience**. The implementation is outlined in the [Operational Implementation Plan \(OIP\)](#) of the [IHP IX Strategic Plan](#). By bringing innovative, interdisciplinary, and environmentally sound methods and tools into play, while fostering and capitalizing on advances in water sciences, IHP acts at the science-policy nexus to help meeting today’s global water challenges (**Climate change is primarily experienced as a water crisis**) which affects the implementation of all the goals under review.

**2. Game Changer: Science Based Global Water Assessment**

UNESCO presented the game-changing idea of Science Based Global Water Assessment during the UN 2023 Water Conference with a follow-up presentation for more commitments and accountability during the HLPF 2023. The Global Science Based Assessment is envisaged to be interlinked and coordinated with other across the SDGs potential game-changing solutions. Synergies with other intergovernmental mechanisms (such as the IPCC, IPBES, and others) are also foreseen. The assessment, if implemented will also identify state-of-the-art solutions, based on science, research, engineering, technologies, and innovations that are existing and emerging capable of providing policymakers with a more comprehensive understanding of the available options to face water-related challenges. The game changer is expected to develop interlinkages across all the SDGs, as water has cross-sectorial importance for many other SDGs, including climate change adaptation (Goal 13).

**3. Upscaling the implementation of Climate resilience water management Approaches**

UNESCO transdisciplinary expertise offers unique contributions to addressing the impacts of climate change (goal 13) such as the challenges of floods and droughts, particularly through initiatives that leverage the power of science and technology in addition to its commitment to advancing scientific knowledge. UNESCO plays a pivotal role in promoting and disseminating cutting-edge scientific research that informs effective policies and resilient practices. By fostering collaboration (goal 16 &17) among scientists, policymakers, and communities, UNESCO facilitates the development and implementation of evidence-based solutions.

**4. Implementing Ecohydrology Approach at the World Heritage Sites**

UNESCO has been implementing Ecohydrology approach at the UNESCO's Designated Sites including the World Heritage Sites which constitute a network of living laboratories, where these sites can also be used to demonstrate the application of ecohydrology solutions in addressing water, environment, and social issues. This is among the focus of UNESCO's IHP Ecohydrology Programme within its Ninth Phase. As far, there are 3 Ecohydrology Demonstration Sites which are also World Heritage Sites: Lake Naivasha, Kenya, Pelican Bay, Galapagos, Ecuador and Subak Bengkel – Tabanan Bali, Indonesia.

#### **5. Life-long water education and awareness raising for a sustainable water culture**

Through its Flagship Initiative Global Water Museums Network (WAMU-NET) and close cooperation with UNESCO's experts in the domains of Indigenous and local knowledge systems, as well as Culture, IHP is offering an array of informal and non-formal education actions that generate a better understanding of water among a large, intergenerational audience. WAMU-NET draws on the diversity of water heritage, ancient water systems and technologies, some recognized as World Heritage, such as the qanats, and on their societal implications to help re-think water perceptions and attitudes towards water, and to advocate for farsighted and inclusive management models. Simultaneously, it promotes the adaptation and use of long-existing solutions in water management, such as local, participatory water harvesting and distribution systems and the community values that their operation implies. With a focus on youth and women, WAMU-NET innovates in the creation of water knowledge through an extensive use of art and participatory artistic expression, as for example in the networks regular youth art contests, increasing the water literacy of thousands of schoolchildren and teachers worldwide.

#### **6. Supporting transboundary water cooperation**

Transboundary waters, which include river, lake, and aquifer systems shared between two or more countries, account for 60% of the world's freshwater flows. Transboundary water cooperation encourages countries with shared water resources to engage in dialogue and collaborative management efforts. These activities are crucial for ensuring equitable and sustainable access to water resources, building a foundation for long-term peace and stability, in addition to being crucial to adapt to the impacts of climate change and increase food security. By looking especially at cooperation over transboundary aquifers, UNESCO-IHP reinforces these aspects regarding groundwater resources that are under pressure in many parts of the world.

Effective transboundary water management requires the establishment of robust legal and institutional frameworks. This aspect of cooperation supports SDG 16's call for building effective, accountable, and inclusive institutions. By developing joint water management bodies or commissions, countries can create platforms for continuous dialogue, shared decision-making, and dispute resolution. These aspects are monitored every three years, and subsequently promoted reinforced, under the SDG indicator 6.5.2 on transboundary cooperation (UNESCO and UNECE co-custodian agencies).

- c) Three examples of specific actions, policies and measures that are most urgently needed to effectively deliver sustainable, resilient and innovative solutions to eradicate poverty and reinforce the 2030 Agenda, building on interlinkages and transformative pathways for**

achieving the SDGs.

### 1. UNESCO's Climate Risk-Informed Decision Analysis (CRIDA)

UNESCO's scientific methodologies and tools contribute to enhancing understanding of climate-related risks and developing innovative approaches to build resilience. The Climate Risk Informed Decision Analysis (CRIDA) tool, is a step-by-step framework for developing adaptation pathways for climate change and to help water resources managers and planners to develop resilient systems from the bottom-up to meet both climate adaptation and development goals.

- UNESCO has presented CRIDA worldwide, the approach has been piloted in different regions and case studies have been implemented in 22 countries, i.e., Africa (Zimbabwe, Zambia, Gabon, South Africa), Latin America (Argentina, Chile, Colombia, Mexico, Ecuador), Asia (Bhutan, Sri Lanka, Thailand, Philippines India) and North America (Canada, United States). Training has been also developed reaching over 3000 people in more than 130 countries. The CRIDA manual and courses are currently available in 5 languages (English, French, Spanish, Arabic and Portuguese).

### 2. Innovative Early warning systems, scientific networking and cooperation

- UNESCO has developed and operationalized ***flood and drought monitoring and early warning systems***, which has created buy in effect and already implemented in 7 countries in Southern Africa (Botswana, Namibia, Malawi, Mozambique, Zambia, Zimbabwe and South Africa). The tools provide real time information of precipitation and river levels and drought indicators. Additional tools include flood Hazards and impact assessment as well as landslide - hazard impact assessment.
- UNESCO IHP plays a key role, as a ***platform for scientific networking and cooperation***, to contribute to assessing and monitoring changes in snow, glaciers and surface and groundwater resources and as well to propose options for adaptation.
- UNESCO-IHP supports transboundary water cooperation through the lens of science, focusing especially on the protection of transboundary aquifers. It facilitates the assessment and monitoring of these critical water resources, advocating for sustainable management practices and collaborative governance that integrates data analysis, socio-economic factors, and legal principles, with science and knowledge as entry-point for cooperation, implementing this approach in a number of projects.

#### d) Follow-up actions and measures being undertaken by your intergovernmental body to support implementation of the Political Declaration of the SDG Summit.

- UNESCO-IHP is following up the Science Based Global Water Assessment idea presented during the HLPF 2023 through the implementation of national science-based assessments in pilot countries. This is deemed to raise the profile of science in aiding the implementation of the goals under review through water as both a victim and solution under multiple crises.

#### e) Recommendations and key messages for inclusion into the Ministerial Declaration of the 2024 HLPF

1. Promote and raise the profile of science by supporting the development and dissemination of science-based knowledge, innovations, tools, and methodologies, and training materials on best practices to promote science for SDGs under review.
2. Support the upscaling of Climate resilience water management Approaches. The implementation of UNESCO CRIDA Methodology is highly recommended and could be used as a guideline for country national adaptation plans to support implementation of goal 13.
3. Promote partnerships, scientific networking and cooperation, and inclusivity to accelerate implementation of goals 16 and 17, to create an enabling environment to implement goals 1, 2 and 13. UNESCO-IHP plays a key role, as a platform for enhancing cooperation and building partnerships. In this regard, transboundary water cooperation through the establishment of operational cooperation arrangements over shared river and lake basins and aquifers is pivotal.