



**UNITED
NATIONS**

UNEP/EA.6/INF/4



Advance unedited version

**United Nations
Environment
Programme**

Distr.: General
20 December 2023

English only

**United Nations Environment Assembly
of the United Nations Environment Programme
Sixth session**
Nairobi, 26 February–1 March 2024
Item 5 of the provisional agenda*

**International environmental policy and governance
issues**

Information on the implementation of resolution 3/10 on Addressing water pollution to protect and restore water-related ecosystems

Note by the secretariat

Introduction

1. In its resolution 3/10 on addressing water pollution to protect and restore water-related ecosystems, the United Nations Environment Assembly of the United Nations Environment Programme (UNEP) requested the Executive Director of UNEP, within the scope of available resources, to cooperate with other relevant organizations, including through UN-Water, to develop a world water quality assessment for consideration by the Environment Assembly at its fifth session.
2. The present report contains information to update on progress in the implementation of the resolution, in particular with regard to the workstreams of the water quality assessment and the World Water Quality Alliance (WWQA).

* UNEP/EA.6/1.

I. Progress in the implementation of resolution 3/10

3. In order to address the broad scope of the comprehensive water quality assessment as outlined in the UN-Water Analytical Brief entitled “Towards a Worldwide Assessment of Freshwater Quality”, and building on the findings of its initial assessment, A Snapshot of the World’s Water Quality: Towards a Global Assessment (2016), UNEP has engaged since 2019 a wide community of practice, comprising UN-Water members and partners and other experts from the scientific and research community, civil society and local communities. The WWQA, which emerged from this process, has brought together several expert consortia to address current and emerging issues inherent in the global water quality challenge across the Sustainable Development Goals (SDGs) and to work towards advocacy for water quality solutions and compiling a comprehensive World Water Quality Assessment.

4. The purpose of the World Water Quality Assessment mandated by 3/10 is to review the state of freshwater quality and the potential impacts of water pollution on health, food security and ecosystems, illustrating causal-chain cases, from drivers to impacts, and responding to the scarcity of water quality data in many areas within a D-P-S-I-R (Drivers, Pressures, State, Impacts, Response) framework.

5. A ‘First Global Display of a Water Quality Baseline report’ and global perspective paper on assessing groundwater quality was submitted for UNEA5.1 and in 2022-23. With a view to the implementation of UNEP’s Medium-Term Strategy 2022-2025 (Climate Change, Pollution and Biodiversity) and following updates to the findings published for UNEA 5.1, the WWQA is gaining momentum and relevance in building bridges between data and action and tools and empowering society. To this end, during the course of 2022 a structure regarding the Pathway towards the World Water Quality Assessment was created, with a view to what will be essentially a digital platform that can be kept updated. Hence the use of the word ‘path’ as the DSP will be a product that will be continuously added to as new or additional data, tools, portals become available. The DSP was launched in 2023 and its form as digital data products offers more scope for innovation and reaching a variety of audiences, and can be kept progressively updated. The objective is that by 2025 ‘The Path to a World Water Quality Assessment’ will have established itself as the principal source of water quality information for all stakeholders no matter the level of their expertise. The assessment is based on the approach known as ‘progressive disclosure’ that enables audiences from wide backgrounds (beyond just a technical audience) to learn about the key factors affecting water quality.

6. For the 38th meeting of UN-Water, UNEP reviewed the functions of the Expert Group for Water Quality and Wastewater of UN-Water and provided updated TOR to revitalize the Expert Group. There was a keen interest to revitalize this Expert Group and FAO and WHO have come forward to help coordinate this Expert Group moving forward given the many areas of work around water quality and wastewater being handled across the UN system. The TOR are currently under revision to reflect this tripartite co-coordination and the Expert Group will convene all relevant and interested UN-Water members and will propose a set of activities by the 39th meeting of UN-Water.

7. The WWQA will be anchored, together with the Global Wastewater Initiative (GWWI) of UNEP, in the revitalized Expert Group’s updated TOR which will specifically reference the WWQA and GWWI as the global coalitions convened by UNEP that can actively support UN-Water through the Expert Group and provide a platform to exchange information, knowledge and experience, to cross-fertilise activities of individual agencies and to avoid duplication. This will allow the WWQA to anchor itself firmly in the UN-Water infrastructure and link this to the SDG6 Accelerator Framework, potentially the UN system-wide strategy on water and sanitation. This shows that the WWQA can offer other UN-Water members and partners in the area of water quality and wastewater, which is gaining increasing interest.

8. Since its inception meeting in 2019, the Alliance has grown rapidly. In 2022, following a comprehensive evaluation process by the WWQA Strategic Advisory Committee (SAC) and Technical Advisory Committee (TAC) a total of 16 workstreams have now been approved which include workstreams focusing on Social Engagement Platform, Citizen Science for SDG 6.3.2, Ecosystems, Friends of Groundwater, Scenario Analysis, Plastics, Earth Observation, In-Situ Monitoring of Water Quality Data, and Wastewater Surveillance (in partnership with UNEP GWWI), Capacity Development Consortium, and Use Cases. Some of the products produced by the workstreams in the last years to highlight include the following, which are contributing to the overall Pathway to the World Water Quality Assessment:

- Plastics guidelines piloting report and paper by the Plastics workstream

- White paper ‘Embedding Lakes into the Global Sustainability Agenda’ on lake ecosystem restoration by the Ecosystems workstream
- Global Scenarios Report for Ecosystem Health by the Scenarios workstream
- Guidance report and policy brief for expanding the use of citizen science for water quality monitoring
- Global Groundwater Quality portal & Guidelines for the assessment of groundwater quality by the Friends of Groundwater
- Africa Use Cases: continuation of stakeholder engagement in Lake Victoria, Volta Basins, and Cape Town Aquifers, and evaluation of the stakeholder engagement process.
- Stakeholder engagement and fundraising guidelines to support Local Water Forums establishment by the Social Engagement Platform

II. Lessons learned

9. There has been a concerted effort during the period 2019-2023 to create a more cohesive and coherent interaction between the different workstreams of WWQA which has resulted in an enhanced overall approach of the WWQA itself based on a proposed set of seven principal pillars. These seven pillars are seen as some of the central tenets to help member states and UNEP, through its convening power of the WWQA, facilitate and support action by member states in the areas of monitoring and improving water quality for the health of humans and ecosystems and will be used to orient the work of the WWQA in going forwards and supporting progress on addressing water pollution to protect and restore water-related ecosystems:

a) **Data to Action.** Accessibility to all stakeholders of the socio-political helix (public, private, research, cultural and citizen). Data to action is a process whereby raw data is collected and analyzed to inform decision-making and actionable tasks by communities at a local, sub-national, national and supranational level. The process involves identifying patterns or trends and making decisions and acting based on the results. Data to action can be applied to all water-based organizational issues or problems.

b) **Source to Sea.** The source to sea approach to water quality is an integrated, collaborative approach to water resource management focused on the entire water cycle, from source (e.g., hills and mountains) to sea (e.g., the ocean). It puts emphasis on the interconnectedness of the freshwater systems (ocean, lakes, rivers) and the atmosphere, and makes a focused effort to protect and conserve aquatic ecosystems over their entire length. It involves a continuous monitoring of both upstream eutrophication and downstream pollution, to ensure water quality over the whole water body. Making an important consideration for the impacts of climate change, the source to sea approach seeks to adopt a wide range of conservation measures, from better agricultural practices and pollution control to aquatic protection and restoration.

c) **The Water-Energy-Food-Ecosystem-Health Nexus (WEFE+H).** The water-energy-food ecosystem nexus is an interdisciplinary approach to managing, restoring and sustaining the environment, by recognizing the interconnectedness between water, energy, and food systems as well as their interaction with ecosystems and the issue of human health. This approach considers how the use of natural resources and production of energy (such as hydropower and biomass) affects water, land, and other ecosystem services. In addition, the concept of the nexus emphasizes how water and energy enable food production and how changes in food production can impact energy and water resources and freshwater quality. The nexus approach can help policy makers and stakeholders to manage the environment and its resources more effectively through an integrated approach. For example, it can help decision-makers to consider interactions between different sectors (water, energy, food, ecosystems, health) and how those interactions may result in constraints or opportunities for sustainable development. It can also help to identify potential trade-offs between different sectors and ways to optimize resource use.

d) **Citizen engagement** is the involvement of citizens in civic processes, such as decision-making, policymaking and community issue resolution. It involves citizens participating in democratic processes, such as voting, petitioning, and advocacy, to influence the outcome of an issue. It also includes more direct participatory activities such as neighbourhood meetings, engagement with local government, and collaborative media projects resulting in the necessary advance, supported by a strong capacity development programme as demonstrated by the work of a number of WWQA workstreams.

e) **Development of long-term citizen science.** ‘Citizen science’ is a term used to describe

scientific research projects or activities which are conducted, in whole or in part, by volunteers who are not professional scientists. Citizen science projects often involve collecting and submitting data for use in research conducted by professional scientists. This type of research has grown significantly in recent years and is now used by researchers in many different fields of science. In the case of the WWQA and water quality in general, there is a strong emphasis of the subsequent co-creation and co-implementation of local policies by society as whole, represented by the socio-political helix. The socio-political helix is a model for developing networks, collaborations, and partnerships that involve all five elements of a healthy innovation ecosystem, including: governments and political agencies, academia and research, industry representatives, civil society, and citizens. It has been proposed as a key model for transitioning towards circular economies and the development of sustainable communities. It has been described as “a solution-oriented approach to sustainable development, in which all necessary players are considered and connected, with the aim of achieving breakthrough achievements”.

f) **Inter-regional science-sustainability diplomacy.** Science diplomacy is the use of science and technology to help build bridges between countries and to enhance international cooperation. It is an international diplomatic tool to address a variety of issues, such as global health, climate change, sustainable development, biodiversity, and energy security. It can benefit all countries in a variety of ways, including fostering economic growth, aiding in foreign development, strengthening educational ties, and promoting scientific research and collaboration.

g) **An efficient water-based extreme event monitoring capacity.** This is a medium-term ambition of the WWQA and refers to the capacity to provide necessary scientific data in order to support the efficient response on behalf of all involved stakeholders to extreme events that concern water quality. It also involves developing a system for identifying data providers from the WWQA capable of sourcing and communicating appropriate information in a timely manner to those affected.

10. The UN 2023 Water Conference (22-24 March, 2023) saw the adoption of the Water Action Agenda, representing voluntary commitments of nations and stakeholders to accomplish the Sustainable Development Goals (SDGs) and their targets connected to water. The need for more data on water quality (surface and groundwater) came out in the UN 2023 Water Conference to ensure healthy ecosystems and human communities and the WWQA will keep working towards this, with the aim to contribute to the preparatory processes and the UN Water Conference taking place in 2026 and 2028.

III. Recommendations [and/or conclusions] and suggested actions

11. There is a need for more coherent action on water quality and for the connection between data to such action that can be facilitated by convening actors from across the socio-political helix i.e. (public, private, research, cultural and citizen) which the WWQA has strived to achieve to date. As has been the case, engaging all societal groups across gender and age across all ethnic contexts which is currently reflected in the WWQA’s activities in particular through its Social Engagement Platform; and at all levels (i.e. local, regional, national, transboundary) is vital for initiating and sustaining action for water quality. It is evident that data remains a critical bottleneck, requiring significant emphasis on capacity development. Additionally, there is a need for an open-access environment that is willing to facilitate sharing especially in transboundary environments and it is vital that water quality is seen as interconnected to nature-based solutions, and to resolving the triple planetary crisis. The need for a rigorous global assessment on water quality still stands in order to provide a comprehensive synthesis of what is known on water quality and communicated the urgency of the problem to decisionmakers, other stakeholders, and society. To this end, the WWQA Technical Advisory Committee (TAC) have prepared a roadmap towards a comprehensive world water quality assessment that takes lessons from other assessments and outlines scenarios towards a full world water quality assessment.

12. Consolidating and advancing the WWQA will require specific attention in two areas: firstly, an effort to actively involve and connect all segments of society and stakeholder groups, reflecting the socio-political helix thus across gender, age, ethnic and belief backgrounds. This is currently being facilitated through the Social Engagement Platform and all workstreams in the WWQA are helping to connect to a variety of concerned stakeholders. This engagement is crucial for making water quality solutions not only applicable but also owned and co-created by diverse societal actors. Secondly, leveraging data to drive informed action. The challenge of operating in an environment abundant in data but lacking in actionable information is particularly pertinent to water quality within the WWQA. The information presented to date under the Pathway to the World Water Quality Assessment underscores this paradox, emphasizing the need

to address information scarcity in order to effectively tackle water quality issues. The Alliance fosters new avenues but what we know from decades of experiences in the UNEP Global Environment Monitoring System (GEMS)/Water programme is that data is still the bottleneck.

13. The realization of both mentioned aspects in the conclusion hinges on Member States collaborating closely with the WWQA and monitoring programs. This collaboration is essential for creating mutually open and beneficial environments conducive to advancing water quality and sustainability efforts.

14. The WWQA has received resources by the Swiss Government to support coordination and seed funding activities seed funding where and the science technology innovation platform supporting the global Assessment is supported by Germany. That in mind and grateful for this substantial support the World Water Quality Alliance is looking forward to work with even more governments and more partners across society to broaden the resource base and supplement the generous in kind and cash support mobilized.