UN environment programme 50 1972-2022

Executive Summary

Sustainable Development Goal Indicator 6.3.2

Options for maximising the indicator's positive impact

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GEMS Water

Global Environment Monitoring System for Freshwater

Report author: Stuart Warner

Report reviewers: Kilian Christ, Melchior Elsler and Hartwig Kremer

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United Nations Environment Programme
GEMS/Water Programme
United Nations Office at Nairobi
UN Avenue, Gigiri,
Nairobi,
Kenya.
e-mail: sdg632@un.org

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Photo: Lesotho rivers from above (Accreditation: GEMS/Water)

Overview

Ensuring good ambient water quality in our rivers, lakes and groundwaters is an essential prerequisite for the SDGs to be realised. Healthy freshwater ecosystems require water of good quality. These ecosystems in turn provide the services necessary to support human health and wellbeing, sustainable agriculture and liveable cities. Monitoring trends in quality helps to understand the condition of water bodies and why they are changing, but unfortunately this information is not available to all, and it is those in low and middle-income countries where this information is most rare.

The SDG indicator 6.3.2 (SDG 632) methodology helps countries to report on ambient water quality in a consistent and straightforward manner and has undergone several iterations since conception in 2016. Over this six-year period the methodology has been through a series of design, implementation, feedback, and review cycles.

This report summarises the most recent component of this cycle: the *2021 Feedback Process,* which sought input from those tasked with reporting in their country (National Focal Points or NFPs) and experts from a broad range of expertise who are members of the World Water Quality Alliance (WWQA).

This report brings together the findings of this process and presents them in terms of options and outlines a roadmap for the implementation of the indicator with the ultimate objective to *improve water quality*.

Background

SDG 6 is designed specifically to ensure progress around water and sanitation, and although some progress has been made since 2015, this progress needs to be accelerated to ensure this goal is reached by 2030 (UNEP 2021[1]).

SDG 632 aims to measure progress towards target 6.3 by assessing the effectiveness of measures to reduce pollution of freshwaters. It provides a measure of the quality of water in rivers, lakes and groundwaters, and how they change over time.

The UN Environment Programme (UNEP) is the custodian agency of three SDG indicators: indicator 6.3.2 on ambient water quality; indicator 6.5.1 on the degree of Integrated Water Resource Management (IWRM); and, indicator 6.6.1 on the extent of freshwater ecosystems. UNEP's Global Environment Monitoring System for Freshwater (GEMS/Water) acts as the implementing programme for SDG 632.

Gathering feedback from those tasked with reporting for their country ensures that the SDG indicators maintain their relevance and that the methods of implementation are optimised.

Goal 6
Ensure availability and sustainable management of water and sanitation for all
Target 6.3
By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally
Indicator 6.3.2
Proportion of bodies of water with good ambient water quality

Photo: Ruvu River abstraction location. Tanzania (Accreditation: GEMS/Water)

[1] United Nations Environment Programme. 2021. "Progress on Ambient Water Quality. Tracking SDG 6 Series: Global Indicator 6.3.2 Updates and Acceleration Needs". Nairobi.

Planned Actions and Recommendations

Listed below in tables one to six are actionable recommendations based on the feedback gathered. These have been divided into six themes, and ranked according to their urgency, likely impact if implemented, and feasibility given the current resource constraints. These ranks have been used to provide an overall score indicating which actions should be prioritised in the future workplan. The ranks are defined as:

Urgency: 1 = low, 2 moderate, 3 = high

Likely impact: 1 = low, 2 = moderate, 3 = great

Feasibility: 1 = hard, 2 = moderate, 3 = easy

Awareness raising

These actions are either already part of GEMS/Water's day-to-day activities but need expanding or are new activities that need to be explored.

Table 1: Awareness raising actions ranked according to urgency, likely impact and feasibility

Action	Rank	Score
Showcase good examples of policy intervention through IWRM (SDG 651)	3 3 2	8
Highlight discrepancy between rich and poor countries in funds available to support monitoring	3 1 2	6
Promote data sharing by showcasing good examples	2 2 2	6
Show case good national examples where water quality data and information feed into policy decision	2 2 2	6
Promote SDG 632 within academic circles and promote data sharing	1 2 3	6
Highlight that monitoring in poorer countries need reinforcing by continuing to promote the findings of the 2021 progress report	3 1 2	6
Develop video/s that highlight links between human activities, water quality and the available solutions	1 2 2	5
Highlight that training can help make better use of available resources and maximise impact of information generated	1 1 2	4
Highlight cost of remediation, and highlight failures of the groundwater nitrate legislation in EU	1 1 1	3

Capacity Development

Capacity development is central to ensure that countries are able to monitor and assess their freshwaters. These activities would benefit national and regional management far beyond the scope of this indicator. Training in data management was highlighted as being most urgent, with quality assurance/quality control and groundwater monitoring following closely.

Table 2: Capacity development actions ranked according to urgency, likely impact and feasibility

Action	Rank	Score
Create customised capacity development packages to strengthen national reporting	3 3 2	8
Expand the current *indicator calculation service*, and work through the steps with country focal points	3 3 2	8
Develop translated versions of existing GEMS/Water Capacity Development Centre's courses	3 3 1	7
Partner with development agencies to fill identified material and training capacity gaps	1 3 2	6
Develop new technical documents: • biological monitoring; • establishing target values; • a review of target values; and, • emerging pollutants and microplastics	1 2 2	5

Networking and Outreach

These actions could help to improve communication between those already working with this indicator and expand its reach to those that could benefit from using it.

Table 3: Networking and outreach actions ranked according to urgency, likely impact and feasibility

Action	Rank	Score
Promote the indicator and ambient water quality more widely to citizens through connections to existing initiatives	3 3 2	8
Increase efforts to engage and communicate in Northern Africa and Western Asia region	3 3 1	7
Reach out to countries that found it difficult to access support material and ensure they are aware of translated content	2 1 3	6
Contact national focal points annually for requests, but more frequently with "no action required" updates	2 1 3	6
Develop Regional Support Networks	3 2 1	6
Highlight the low level of participation of National Statistics Offices in each country	1 1 3	5
Consider mapping focal points for all SDG indicators at national level	1 1 1	3

Potential Case Studies

These potential case studies would highlight some SDG 632-specific work that is already ongoing, or alternatively, refocus existing activities through an SDG 632 lens.

Table 4: Potential case studies ranked according to urgency, likely impact and feasibility

Action	Rank	Score
Biological citizen science approaches such as miniSASS	3 3 2	8
Satellite-based Earth observation case study that emphasises the robustness of new techniques and their cost effectiveness	3 3 2	8
Demonstrate how Level 2 data can augment national submissions	3 3 2	8
Showcase good examples of data sharing	2 2 2	6
Promote the benefits of incorporating groundwater data into SDG 632 submissions	1 3 2	6
Highlight benefits of employing sub-national common reporting units across all SDG6 indicators	2 2 1	5
Develop a SDG 631/632 project that looks at Waste Water Treatment Plants and water quality available through 632 reporting	2 2 1	5
Engage with a country that reported difficulties in collating data and undertake a mapping exercise of potential data sources	2 2 1	5
Develop water body delineation tool using HydroBASINS and test integration of HydroATLAS to improve assessment	1 2 2	5
Develop a river basin-wide SDG 632 submission using data from riparian countries	1 2 1	4
Promote credit-based system for private sector to submit water quality data for SDG 632 calculation	1 2 1	4

Implementation

These actions could improve the implementation of the indicator.

Table 5: Implementation ranked according to urgency, likely impact and feasibility

Action	Rank	Score
Develop a suite of indicators that help to refine the currently diverse options for Level 2 reporting[2]	3 3 2	8
Roll-out Level 2 data drive for national reporting	3 3 2	8
Develop an SDG 632 global bioindicator	2 2 1	5
Expand the languages that countries can use to report	2 1 1	4
Offer an annual prize for the development of simple analytical tools to support SDG 632	1 1 1	3
Initiate a standalone project that "mines" scientific publications for water quality data	1 1 1	3

SDG Water Quality Online Hub Functionality

The *SDG Water Quality Online Hub* is currently at the development phase. Input from countries from all economic categories and SDG regions will be sought. This hub will provide a vehicle to deliver many of the items listed above but they are not all explicitly repeated here.

Table 6: SDG WQ Online Hub functions derived from feedback ranked according to urgency, likely impact and feasibility

Action	Rank	Score
Include assessment tools to help interpret data and present information	3 3 3	9
Automatic indicator calculation	3 3 3	9
A peer-to-peer engagement functionality	2 1 3	6
Develop a SDG 632 "data pairing facility" for academic, private sector or international organisations to share their data	2 2 2	6
Create a *regional networking facility*	1 2 2	5
Managed national fora for national focal points and coordinators	1 1 2	4

[2] Level 2 reporting allows countries to submit information on parameters beyond the core five, and to use additional approaches to monitoring such as Earth observation

Summary and way forward

Ultimately, this indicator is about improving water quality, and providing the information to those decision makers that can affect change by protecting and restoring the rivers, lakes and groundwaters needed for sustainable development.

SDG 632 provides the necessary focus to bring together disparate activities and mandates aimed at improving water quality and goes far beyond a reporting framework. For countries struggling to monitor and assess their freshwaters, the indicator and its implementation can provide a strong foundation upon which to build a better understanding of water quality. For countries that have advanced monitoring programmes, it offers a straightforward and stable method to understand general trends in space and time yet includes scope to incorporate greater complexity as required.

The recommendations from the feedback process have provided insight from two very different viewpoints: those on the business end of reporting and water resource management, and those who have expertise and an observational view of the indicator.

These insights help guide the continuing development of the indicator and helps to steer its implementation. Central to the realisation of several of the actions is the development of the *SDG Water Quality Online Hub* planned for 2022 (**Error! Reference source not found.**). This new platform will provide a resource for those tasked with reporting and help bring together many of the activities listed.

As UN Water's Integrated Monitoring Initiative for SDG 6[3] (IMI-SDG6) moves into its third phase in 2023, the focus will be on using the information gathered from phases 1 and 2 and using this to implement the changes required to improve water quality in practice. For many countries the available information is inadequate to know whether water quality is improving or degrading, so these prerequisite steps of establishing monitoring are essential. Some countries starting from a low capacity, may be able to overtake those with established monitoring programmes by making efficient use of new and innovative methods of monitoring rather than adopting "established" methods that may not be best suited to their national situation.

The options listed here for the future implementation of the indicator are aimed at expanding the country reporting network, and making the best use of any available information, and sharing experiences from different countries with the goal of improving water quality. The headline actions that are simultaneously **urgent**, likely to have a significant **impact** and are relatively **easy** to achieve given the resources available.

Other actions and case studies may become a reality based on partnerships with other organisations, but those listed below scored eight or more in the scoring assessment applied and will be prioritised in the future workplan.

- Create **customised capacity development packages** to strengthen national reporting
- Expand the current ***indicator calculation service***, and work through the steps with country focal points
- Develop a **suite of indicators** that help to refine the currently diverse options for Level 2 reporting
- **Roll-out Level 2** data drive for national reporting
- Develop **case studies** including:
    - Biological citizen science approaches
    - Satellite-based Earth observation study
    - Demonstrate how Level 2 data can augment national submissions
- Work to showcase good examples of policy **intervention through IWRM** (SDG 651)
- **Promote the indicator** and ambient water quality more widely to **citizens** through connections to existing initiatives
- Develop the **SDG Water Quality Online Hub**
    - Include assessment tools to help interpret data and present information
    - Automatic indicator calculation

Ensuring the indicator remains both nationally relevant and globally comparable is a complex task, but one that can only be achieved by receiving and acting upon feedback and input from those using the indicator in their country. This valuable feedback will guide the development and implementation of this indicator into the future.

Figure 1: Schematic of the potential functions of the SDG Water Quality Online Hub

[3] https://www.sdg6monitoring.org/about/integrated-monitoring-initiative/