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# Indicators and Indices in the World of Water Quality Assessment: Lessons Learned

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X.4 Building-Up Monitoring and Reporting on  
SDGs Based on Sub-National and National Efforts



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# SDGs and water quality

## SDGs and water quality

SDG 6.3 Target: Improve the quality of waters

SDG 6.3.2 Indicator: Proportion of water bodies with good ambient water quality

## SDGs and water quality monitoring and reporting

Correct monitoring and reporting based on indicators and indices big challenge for public authorities





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# Objectives

## Identifying specific challenges in the application of water quality indicators and indices

- Quantitative challenge: Approaching the scope of the problem
- Qualitative challenge: Identifying criteria for prioritizing case specific water quality indicators

THIS DOES NOT INCLUDE: Discussing thresholds for indicators



**Lessons learnt for scientists and practitioners**



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# Methods

## Literature review and expert discussions

- Compiling and prioritizing water quality indicators from 9 standards for measuring water quality
- Identifying criteria for the application of indicators based on discussions with experts

## In Process: Online questionnaire

- Understanding the application of indicators and indices in practice







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# Implications

## Opportunities = Challenges

Possibility to find  
indicators for a  
specific case

Challenge to find the  
right indicator for  
the specific case

### **Need for support!**

- Facilitate the identification of relevant indicators
- Interdisciplinary and transdisciplinary approach



# Prioritizing indicators

## Criteria for prioritization based on experts discussions:

- What are the main driving factors for monitoring and measurement?
- What type of water body is in focus?
- How challenging is the application of indicators?

Monitoring challenges						
Providing the technical equipment for monitoring	not challenging	1	2	3	4	very challenging
Providing human skills for monitoring	not challenging	1	2	3	4	very challenging
Providing financial means for monitoring	not challenging	1	2	3	4	very challenging

# Online survey on water quality indicators



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**Goal: Specify current application challenges in different contexts**

**Addressees:** Water quality experts from

- Science (mainly natural scientists)
- Practice (e.g. public authorities, RBOs)

**Scope:**

- International survey, available in all six UN languages
- Case-specific knowledge at various scales



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## Questionnaire on Water Quality Indicators and Indices

Dear Sir or Madam,

This questionnaire aims to analyse the application of water quality indicators and indices for measuring water quality in practice. It is a joint effort by scientists and practitioners in order to better understand challenges for achieving water-related sustainability goals. Results will help experts in designing relevant capacity development programs for measuring water quality in the future.

By water quality, we mean both human health and ecosystem related aspects. **Indicators** refer here to single parameters to measure water quality (e.g. phosphorus, pH) whereas **indices** refer to combinations of indicators (e.g. WATQ which includes dissolved oxygen, electrical conductivity, pH, total nitrogen and total phosphorus).

Please answer the questions based on your best knowledge in a certain case. Cases can refer here to different types of waters (e.g. groundwater or flowing water) at various scales (e.g. water body, basin, or nation state). Answering the questionnaire will require about 10 minutes. Please contact Sabrina Kuschke from UNU-FLORES (s.kuschke@unu.edu) if there are any questions regarding the questionnaire.

Thank you for your support!

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# Online survey on water quality indicators



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## Examples for Networks

- Water Science Alliance
- International Water association
- Global Waters Operators' Partnerships Alliance
- Global Water Partnership
- Gesellschaft für Internationale Zusammenarbeit
- ...

## Link to participate:

<https://flores.unu.edu/en/about/media/releases/call-for-water-professionals-to-fill-out-survey-on-water-quality-indicators.html#info>



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# And then?

## Developing research questions, e.g.

- Clustering of indicators for various contexts
- Decision support tools for identifying indicators

**Revising capacity development programmes based on specific needs, e.g. human capacity, financial equipment**

**Better addressing SDG 6.3, hereby fostering well-being and a healthy environment with high biodiversity**



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# Thank you!

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