



Nile Cooperation for Climate Resilience (NCCR) Project

Terms of Reference

Consultancy: individual consultant to develop a Nile Basin water quality source book

Location:	Home-based and Nile-SEC office, Entebbe, Uganda
Type of contract:	Regional individual contract
Language required:	English
Duration of contract:	4 calendar months

1. Background

The Nile Basin Initiative (NBI) is a regional intergovernmental partnership that seeks to develop the River Nile in a cooperative manner, share substantial socio-economic benefits, and promote regional peace and security. NBI was established on 22 February 1999 by riparian countries and continues to be led by 10 Member States namely Burundi, **DR Congo, Egypt, Ethiopia, Kenya, Rwanda, South Sudan, The Sudan, Tanzania, and Uganda**. Eritrea participates as an observer.

The Nile Basin’s ecosystems are of fundamental importance to the wellbeing of its more than 272 million inhabitants and comprise the backbone of national economies as they provide numerous socioeconomic benefits.

Services provided by rivers, lakes, wetlands and other water-related ecosystems range from replenishing groundwater over controlling floods to providing fishery-based diets. In the Nile Basin, as in many other parts of the developing world, a great share of people directly depends on these services, i.e. they constitute most of their day-to-day subsistence and income. Environmental pollution causes habitat degradation which results in loss of capacity of ecosystems to generate these services thereby threatening millions of livelihoods and inhibiting economic growth.

2. Summary of water quality issues in Nile Basin

The causes of water quality deterioration in the Nile Basin include untreated waste from ever growing urban areas and industries because of rapid population growth, intensification of agriculture, and deforestation. Across the basin, environmental sanitation is poor, resulting in bacteriological contamination and nutrient enrichment of the Nile waters. While the quality of water of large parts of the Nile system – in particular in the sparsely populated areas – remains acceptable, localized high pollution is experienced mainly around urban centers. Urgent actions are required by the Nile Riparian countries to address these critical threats. Common water quality problems throughout the Basin include declining fisheries, soil

erosion/sedimentation, and discharge of untreated domestic and industrial effluents. It is within this context that a program was proposed for supporting riparian countries to cooperatively address the ever-increasing water quality and pollution control challenges in the basin.

Below are some of the documented specific water quality issues for several locations in the Nile Basin.

- Lake Victoria - Eutrophication (algae blooms) and Water Hyacinths, declining fisheries, soil Erosion and sedimentation, discharge of untreated domestic and industrial effluents, and discharge of agrochemicals.
- Sio-Malaba Malakisi basins – Agrochemical use and erosion/sedimentation
- Mara, Gucha-Migori, Isiukhu, Middle Nzoia, Nyando (Kenya)- Pollution include mining and sugar factories
- Lake Kyoga (Uganda) – Water hyacinths, declining fisheries, soil erosion/sedimentation, discharge of untreated domestic and industrial effluents, and agrochemicals.
- Lake Cyohoha (Rwanda) - Soil erosion/sedimentation, agrochemicals and declining fisheries
- River Kagera (Rwanda) - Soil Erosion and Sedimentation, discharge of untreated domestic and industrial effluent and agrochemicals
- White Nile at Juba/Malakal (South Sudan) - Untreated domestic and industrial wastes, pollution from oil wells, and soil erosion/sedimentation
- Blue Nile(Ethiopia &Sudan) - Soil Erosion/sedimentation, discharge of untreated domestic and industrial effluent and agrochemicals
- Lake Tana (Ethiopia) - Declining Fisheries, soil erosion/ sedimentation, discharge of untreated domestic, water hyacinths and industrial effluents
- Mara River (transboundary between Kenya and Tanzania) - Agrochemicals and soil erosion/sedimentation
- White Nile at Khartoum - Agrochemicals, discharge of untreated domestic and industrial effluents, soil erosion/sedimentation
- The Nile River North of Cairo - Agrochemicals, discharge of untreated or poorly treated domestic and industrial effluents, sedimentation
- Nile Delta in Egypt suffers from high water salinity
- Wetlands of the Nile Basin - Agrochemicals, untreated sewage and industrial wastes, soil erosion/sedimentation

Many of the challenges exhibit a transboundary character and addressing these challenges requires a coordinated approach with countries working together to identify risk areas and design and implement joint responses.

3. The Nile Cooperation for Climate Resilience Project (NCCR)

With support from the World Bank through the Cooperation in International Waters in Africa (CIWA), NBI is implementing the **Nile Cooperation for Climate Resilience (NCCR)** project targeting different key stakeholders of the Nile Basin. The project is implemented by NBI through the NBI Secretariat (Nile-SEC), Nile Equatorial Lakes Subsidiary Action Program Coordination unit (NELSAP-CU), and Eastern Nile Technical Regional Office (ENTRO), as well as Lake Victoria Basin Commission (LVBC) and Nile Basin Discourse (NBD). The Nile-SEC has the primary function of coordinating the rest of the implementing partners. The project is implemented in the period March 2021 – November 2025.

The NCCR project is organized according to the following five thematic areas, which are platform for cooperation, flood and drought risk mitigation, dam safety capacity building, innovative information services for climate-resilient investment planning and water quality investment planning and prioritization

4. Objective of the consultancy

The purpose of the consultancy is to develop a water quality sourcebook for the Nile Basin.

5. Scope of the consultancy/water quality sourcebook

The water quality sourcebook shall be designed to provide guidance on water quality management, pollution and pollution control, water contamination aspects to water resources management and water supply and sanitation agencies in the Nile Basin countries. Others who will benefit from this guidance include industries and agricultural agencies, NBI partners, civil societies and national and international organizations working in water resources development and management sector. All water issues related to point and diffuse sources of pollution shall be captured by the sourcebook.

The content of the sourcebook will include but not limited to:

1. A summary of all collected data and information in different parts of the Nile Basin. This will include water quality data available in the Nile Basin water quality database, literature review of technical reports and publications on water quality in the basin, GEMS STAT database
2. The documentation/literature review of all available water quality information about the state of water quality monitoring, pollution hotspots and areas of deteriorating water quality, erosion and sedimentation. It will include information on planning interventions for addressing identified challenges as well as general education of the public on water quality and pollution issues.
3. The sourcebook shall be organized by the different **Nile Basin sub-basins** which shall include information on water quality problems, hotspots of pollution, water quality sampling stations type, location, frequency and duration. It will capture sample collection and analysis from each station, water quality variable analysed, monitoring history. It will also include summaries of the available water quality data, land use and land management and water quality analysis laboratories

4. The water quality sourcebook shall be presented in interactive format (e.g. interactive pdf) for easy online and offline use.
5. The book shall include for each subbasin, water quality analysis graphs and trends and statistics where possible, and maps

6. Target audience

The targeted audience comprises policy/decision makers in NBI member states, Nile Basin Initiative personnel, water management/policy staff, restoration practitioners; local communities, academia and university students

7. Duration of assignment

The level of this assignment is estimated to 20 man-days spread over a period of four calendar months, starting from September to December 2024.

8. Qualification and requirements

The consultant shall meet the following requirements.

- At least master’s degree in water resources management, hydrology; environmental engineering and related fields, PhD in the same domains will be an added advantage.
- At least **Two** publications (first author) on water quality monitoring or water quality pollution control and or on water quality modelling in **peer reviewed journals**
- Having authored or co-authored at **least Two technical reports** on water quality management systems or related fields
- Experience in using at least one of the two GIS softwares (ArcGIS or QGIS)
- Experience in the Nile Basin or in another basin of the same complexity.
- Fluency in English, knowledge of French is an asset.
- Proven experience in implementing similar assignments.

9. Timelines of deliverables

The consultant will closely work with the regional water quality expert of Nile Basin Initiative Secretariat. He/she will also be supervised and reporting to the regional water quality expert. The non-exhaustive list of keys deliverables and payment modalities are summarized in Table 1.

Table 1: Key deliverables, timeline, and proposed payment

	Key Deliverable	Due Date	Payment
1.	Inception report: outline of the water sourcebook, chapters and subchapters, Initial list of documents for literature review, identification of sources of data,	4 weeks after signing of the contract	20%

	Key Deliverable	Due Date	Payment
	collection of secondary data from various sources and template of the book		
2	Draft water quality sourcebook:	10 weeks after signing the contract	40%
3	Final water quality sourcebook:	16 weeks after signing the contract	40%
	Total	4 months	100%

10. Terms of engagement and payment modalities

The consultants will be recruited on part time basis. His/her level of efforts is estimated to **20 man-days spread over Four calendar months**. The consultant shall sign a contract with the Nile-SEC and will be reporting for all technical functions and duties to the Regional Water Quality Expert.

The consultant will be paid professional fees per man-days in accordance with the negotiated and agreed rates upon submission of deliverables.

11. Mode of application

Interested applicants are advised to submit an electronic application to the following email address wrmconsult@nilebasin.org . The application/cover letter along with a detailed curriculum vitae, links of published manuscripts, technical reports, certificates, should reach the NBI Secretariat no later than **12 00 pm (Local tome in Entebbe) by 10/September/ 2024**. Women are strongly encouraged to apply.

12. Operational procedures

It is also the responsibility of the consultant to adhere to the World Bank Operation Procedures for environmental and social safeguards to ensure that their activities together with the people accompanying him/ her in the field work during the execution of this assignment do not pollute the environment, encourage gender-based violence and child labour. The consultant shall always observe work safety & occupational hazards guidelines during this consultancy study.

13. List of documents available at Nile Basin secretaries

- NBI, 2025: Needs Assessment and Design of a Regional Nile Basin Hydromet Services and a National Water Resources Monitoring System for South Sudan.
- NELSAP, 2022: Water Quality Multi-Criteria Analysis to Prioritize Investments in Identified Hotspots Under the NCCR Project: Literature Review to Identify the Nile Basin Water Quality Hotspots
- NBI, 2023. Updated Water Quality Design and Specifications for the Field Test Kits, Laboratory Equipment, and Laboratory Improvements, Final Report

ANNEX 1: NILE SUB-BASINS AND DISTRIBUTIONS AMONG THE COUNTRIES

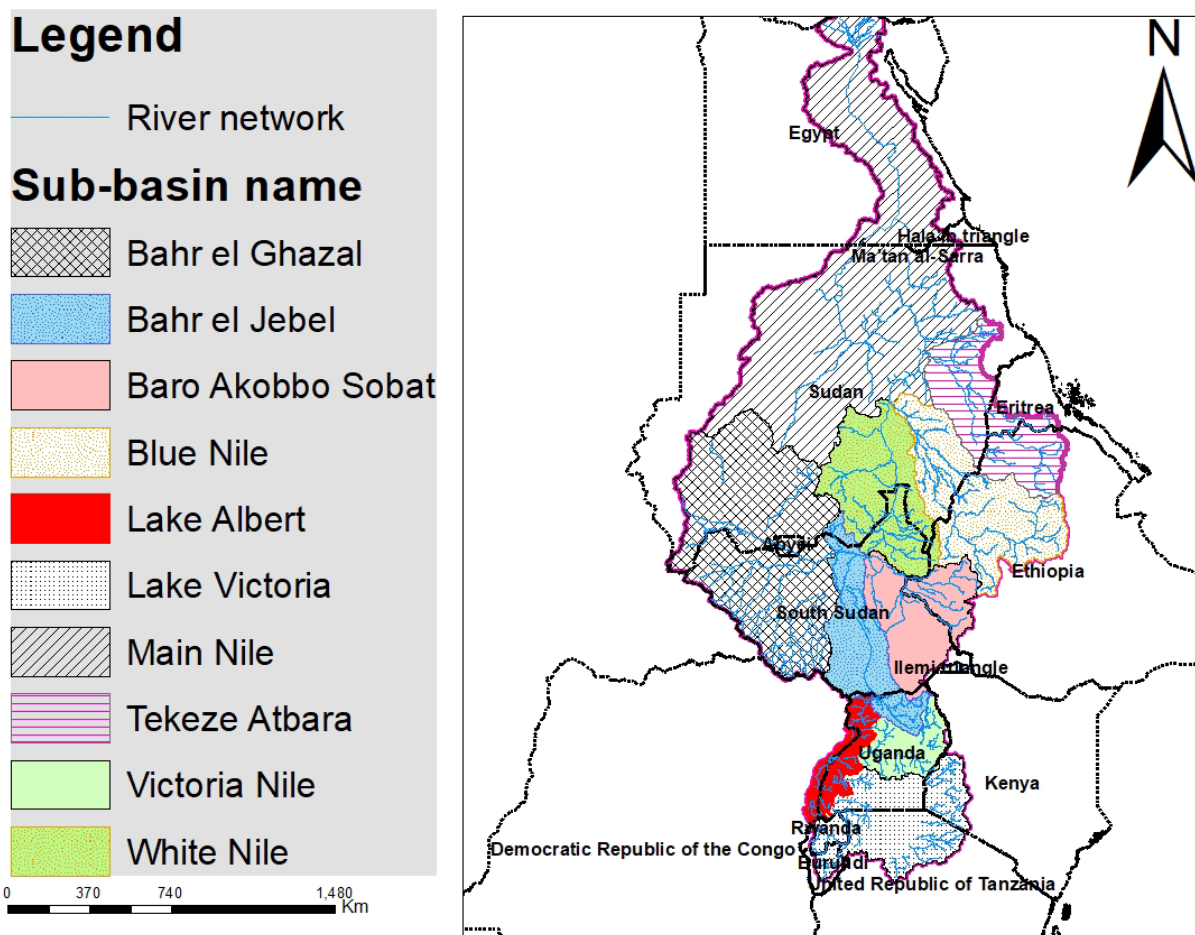


Table 2: Countries sharing sub-basins

SN	Name of subbasin	Shared countries
1	Bahr el Ghazal	South Sudan and Sudan
2	Bahr el Jebel	South Sudan, Sudan and Uganda
3	Baro Akobbo Sobat	Ethiopia, South Sudan and Uganda
4	Blue Nile	Ethiopia and Sudan
5	Lake Albert	DR Congo and Uganda
6	Lake Victoria	Burundi, Kenya, Rwanda, Tanzania and Uganda
7	Main Nile	Egypt and Sudan
8	Tekeze Atbara	Eritrea, Ethiopia and Sudan
9	Victoria Nile	Kenya and Uganda
10	White Nile	Ethiopia, Sudan and South Sudan