

Nile Cooperation for Climate Resilience (NCCR) Project

Terms of Reference

Consultancy: Individual consultant to develop e-learning courses on water quality monitoring and conservation in Nile Basin

Location:	Home-based and Nile-SEC office, Entebbe, Uganda
Type of contract:	Individual contract
Language required:	English
Duration of contract:	3 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.

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.

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:

1. Platform for cooperation
2. Flood and drought risk mitigation
3. Dam safety capacity building
4. Innovative information services for climate-resilient investment planning
5. Water quality investment planning and prioritization

To build the capacity of regional and national experts in water quality management and water resources conservation activities. NBI is seeking the services of a competent individual consultant to provide support in the development of online courses on water quality monitoring and water resources conservation of Nile Basin.

2. Objectives of the Assignment

The overall objective of this consultancy is to develop online courses on water quality monitoring and assessment, in the Nile Basin countries. This assignment also aims to provide support to decision and policy makers in the basin on the importance of investing in water quality monitoring.

3. Target audience

The courses are targeting nationals of Nile Basin countries involved in freshwater quality monitoring and assessment. This includes water quality specialists, laboratory technicians, staff of water resources agencies. The water quality courses may be of interest to NGOs, students in high learning institutions, academics, donors residing in the Nile Basin or other parts of the world in civil societies organization (CSOs) and community based organizations (CBOs).

4. Course outcomes

At the end of the course, participants will be expected:

1. To understand better water quality pollution issues and their impacts on sustainable management of water resources in the basin.
2. To be able to design a routine water quality monitoring framework and program on freshwater water quality.
3. To understand quality control and quality assurance in water quality monitoring programs
4. To be well-informed about new methods of water quality monitoring methods, tools and approaches (citizen science tools, real-time monitoring, classical monitoring and earth observation)
5. To be informed on best practices of water quality sample collection, analysis, data handling , interpretation and reporting.

5. The online courses will comprise but not limited to the following modules

- Freshwater Quality Monitoring Program Design
- Data Handling and Presentation for Freshwater Quality Monitoring Programs
- Freshwater Quality Monitoring with Biota and Particulate Matter

- Quality Assurance for Freshwater Quality Monitoring
- Water Quality Monitoring in Rivers and Lakes
- Water Quality Monitoring and Assessment of Groundwater
- SDG indicator 6.3.2. and its application in the Nile Basin

Each module will be divided into sub-modules or lessons and questions at the end, a case study in the Nile Basin should be also considered.

All course materials (PPT presentation, GIS , video, and sources of information) shall be handed over to NBI at the end the assignment in editable formats.

6. Duration of assignment

- The level of this assignment is estimated to **30 man-days** spread over a period of Three calendar months, starting from **September to November 2024**

7. Qualification and requirements

The consultant will meet at least the following requirements.

- At least master’s degree in water resources management, hydrology or environmental engineering, PhD will be highly preferred.
- At least 10 years of experience in developing e-learning modules, with reference to at least four online courses developed
- Experience of at least 10 years in design water quality monitoring
- Experience in design of functioning water quality monitoring programs is highly desired.
- Experience in working with various sources of water quality dataset example: GEMStat, remote sensing and other sources of water quality is an added advantage.
- 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.

8. Timelines of deliverables

The water quality consultant will closely work with the regional water quality expert of Nile Basin Initiative Secretariat. He/she will also be supervised and report 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 course content, course structure, objective of each submodule, methodology and reference. Virtual presentation of the inception report	2 weeks after signing of the contract	10%
2	Draft report: Draft of the e-learning course with all the content, evaluation structure, exercises. Presentation of the report at NBI office in Entebbe, Uganda	8 weeks after signing the contract	50%
3	Final report: Final e-learning course with all modules ready, tested and deployed to at NBI website-learning management system	12 weeks after signing the contract	40%
	Total	3 months	100%

9. Terms of engagement and payment modalities

The consultants will be recruited on part time basis. His/her level of efforts is estimated to **30 man-days spread over three 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. The cost for official travels should be reimbursed at the cost of economy class tickets and will need to be approved by the Nile-SEC regional water quality expert.

10. 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 publications, course developed and certificates should reach the NBI Secretariat no later than **12 00 pm (Local time in Entebbe)** by **10/September/ 2024**. Women are strongly encouraged to apply

11. Operational procedures

It is 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.