

WATER QUALITY MULTI-CRITERIA ANALYSIS TO PRIORITIZE INVESTMENTS IN IDENTIFIED NILE BASIN HOTSPOTS



PROJECT DETAILS

EXECUTING AGENCY

The Nile Equatorial Lakes Subsidiary Action Program (NELSAP-CU) is the implementing agency of this Water Quality Multi-Criteria Analysis to Prioritize Investments in identified Hotspots Thematic Area. This Thematic Area is part of the Nile Cooperation for Climate Resilience (NCCR) project.

NELSAP-CU is implementing this Thematic Area in consultation with the Nile Basin Secretariat (NileSEC), Eastern Nile Technical Regional Office (ENTRO), Nile Basin Discourse and the Lake Victoria Basin Commission (LVBC).

PROJECT DURATION

This project will be executed in four (4) years from December 2021 up to November 2025.

LOCATION

The project is located within the Nile River Basin.

PARTICIPATING STATES

Burundi, DR Congo, Ethiopia, Kenya, Rwanda, South Sudan, The Sudan, Tanzania and Uganda.

DEVELOPMENT PARTNERS

The Project is financed by The World Bank through the Cooperation in International Waters in Africa (CIWA) Trust Fund.

THE NCCR WATER QUALITY THEMATIC AREA IN NUMBERS

44
Hotspots
Identified

The NCCR Project has Identified 44 Water Quality Pollution Hotspots of concern in the Nile River Basin.

8
Screening
Criteria
Developed

The NCCR Project and NBI countries developed and agreed on 8 Screening Criteria for ranking the Hotspots.

4
Hotspots
Selected for
Investments

The NCCR Project selected 4 hotspots earmarked for Investments (2 in Eastern Nile and 2 in Nile Equatorial Lakes NEL)

« The overall objective of this project activity is to support the Nile Basin member countries in identifying, discussing, and prioritizing potential water quality investments that can contribute to addressing the challenges facing water quality of the Nile Basin water systems »



WATER QUALITY MANAGEMENT ISSUES IN THE NILE RIVER BASIN

Key Nile Basin water quality management issues:

- a) Lack of Data and Information.
- b) Lack of Water Quality Modelling.
- c) Lack of harmonized Water Quality Policies and Institutional Framework.
- d) Low Level of Awareness and Monitoring.

IMPORTANCE OF THE PROJECT

« This project will identify Investments to reduce pollution of Water in specific hot-spots, increase awareness on Water Quality issues in the Nile Basin and create a guide for applying Multi Criteria Analysis (MCA) for identification of Water Quality Hotspots and Investment Projects in other regions. »

The project supports NBI countries in identifying, discussing, and prioritizing potential water quality investments that can contribute to addressing the challenges facing the water quality of the basin water systems.

The Project addresses NBI Goal 1: Water Security, specifically Strategic Direction 1.8: Maintain and Improve Water Quality.

It contributes to the United Nations Sustainable Development Goals UN SDG 6 on Clean Water and Sanitation, since it aims to ensure availability and sustainable management of water and sanitation for all.

KEY EXPECTED RESULTS

(i) Develop a Nile Basin Water Quality Database/information system.

(ii) Develop agreed publicly data collection standards.

(iii) Sensitize Nile basin members countries on water quality policy and institutional harmonization needs.

(iv) Increase level of awareness on water quality issues at national and regional level, and

(v) Develop multi-criteria analyses combining technical considerations and policy priorities to help plan and prioritize investments to address water quality issues in identified pollution hotspots.

The ultimate Output of this activity is to create a system and practice where Water Quality investments have been vetted well on multiple criteria that are priorities for stakeholders and governments in these hotspots and therefore come with the storyline of why they are important.

KEY PROJECT ACTIVITIES TIMELINES

DEC 2021.	KICK-OFF MEETING (VIRTUAL)
APR 2022.	LITERATURE REVIEW
MAY 2022.	DEVELOPMENT AND ADOPTION OF SCREENING CRITERIA TO IDENTIFY TWO HOTSPOTS
OCT 2022.	FIELD VISIT/BASELINE SURVEY FOR ETHIOPIAN WATER QUALITY / POLLUTION HOTSPOT AREAS
JAN 2023.	FIELD VISIT/BASELINE SURVEY FOR TANZANIAN WATER QUALITY /POLLUTION HOTSPOT AREAS
JUN 2023.	TRACK 1 BASELINE SURVEY REPORT VALIDATION WORKSHOP
SEPT 2023.	TRACK 2 INCEPTION WORKSHOP
APR 2023- AUG 2023.	IDENTIFYING HIGHLIGHTED POLLUTION AREAS (USING COARSE WATER QUALITY MAP), DEVELOPING LONG LIST OF WATER QUALITY/POLLUTION HOTSPOTS
NOV 2023- MAY 2024.	DATA COLLECTION AND COUNTRY CONSULTATIONS (IDENTIFY POTENTIAL WQ INTERVENTIONS/WQ MANAGEMENT ALTERNATIVES FOR TRACK 1) AND DATA COLLECTION AND COUNTRY CONSULTATIONS FOR TWO WQ HOTSPOTS (TRACK 2 BASELINE SURVEY)
JUN 2024.	REGIONAL WORKSHOP TO REVIEW THE TRACK 1 DRAFT INTERIM REPORT /ASSESSMENT OF POTENTIAL WATER QUALITY INTERVENTIONS REPORT AND TRACK 2 BASELINE SURVEY REPORT
AUG 2024 - FEB 2024.	CARRY OUT MULTI-CRITERIA ANALYSIS (MCA) FOR TRACK 1 TWO HOTSPOTS AND DATA COLLECTION AND COUNTRY CONSULTATIONS (IDENTIFY POTENTIAL WQ INTERVENTIONS/WQ MANAGEMENT ALTERNATIVES FOR TRACK 2)
FEB 2025.	REGIONAL WORKSHOP TO REVIEW THE DRAFT FINAL REPORT/ WATER QUALITY INVESTMENT STRATEGY FOR TRACK 1 AND TRACK 2 INTERIM REPORT
MAR 2025 - JUN 2025.	CARRY OUT MULTI-CRITERIA ANALYSIS (MCA) FOR TRACK 2 TWO HOTSPOTS
JUL 2025	REGIONAL WORKSHOP TO REVIEW THE DRAFT FINAL REPORT/ WATER QUALITY INVESTMENT STRATEGY
JAN 2023 - NOV 2025.	DEVELOPMENT AND DISSEMINATION OF KNOWLEDGE PRODUCTS



REGIONAL WORKSHOP OF THE WATER QUALITY TECHNICAL WORKING GROUP (WO-TWG) HELD IN NAIROBI KENYA IN APRIL 2022. THE PRIMARY RESPONSIBILITIES OF THE WO-TWG INCLUDE PROVIDING ADVISORY AND TECHNICAL GUIDANCE TO ENSURE THAT WATER QUALITY INVESTMENT PLANNING AND PRIORITIZATION ACTIVITIES ARE CONSISTENT WITH STANDARD WATER QUALITY MANAGEMENT PRACTICES FRAMEWORK OF NBI COUNTRIES AND PROVIDE LINKAGES TO RELEVANT NATIONAL INSTITUTIONS TO ENSURE COUNTERPART SUPPORT TO THE PROJECT

« In April 2022, the Nile Basin Regional Water Quality Technical Working Group consisting of representatives selected by the nine NBI countries, met in Nairobi, Kenya, and identified 44 Water Quality Hotspots in the basin. The Regional Working Group developed and agreed on a criteria for ranking these water quality hotspots. »

THE HOTSPOTS SCREENING AND RANKING CRITERIA

After presenting the identified 44 water quality hotspots across the Nile River basin, the Nile Basin Water Quality Technical Working Group developed and agreed on a screening criteria for ranking the water quality hotspots. Below is the criteria

- a) Contaminant loading on receiving waters (20%)
- b) Nature/Location of Hotspot (15%)
- c) Country preference (13%)
- d) Livelihoods impacts (13%)
- e) Health impacts (12%)
- f) Environmental impacts (12%)
- g) Economic impacts (10%)
- h) Source of pollution (Point versus diffuse) (5%)

After subjecting the 44 hotspots to the above criteria, The Regional Water Quality Regional Working Group came up with final two highest ranked hotspots, one in the eastern Nile and one in the Nile Equatorial Lakes Region, where pilot investments to tackle water quality challenges will be implemented by the project. The two selected hotspots are;

- 1) For the Eastern Nile (EN): Gilgel Abbay – Ethiopia
- 2) For the Nile Equatorial Lakes Region: Lake Victoria (Mwanza Gulf) – Tanzania side.

HIGHLIGHTS ON THE NEL WATER QUALITY HOTSPOT

Features of the selected water quality hotspot on Lake Victoria (Mwanza Gulf) – Tanzania side

- Urban streams including Mirongo, Mkuyuni, Nyashishi contribute significantly to pollution at Mwanza Gulf. This is because all types of generated waste including human extra, solid waste and plastics, storm water and partially treated industrial wastewater are discharged into these facilities. Water quality deterioration peaks during the rainy season.
- Lack of adequate and appropriate waste management infrastructure upstream of the catchment. The rocky topography has no sanitation facilities. Occasionally, open defecation is practiced.
- Partially and an inadequately treated wastewater are discharged into these streams and sometimes directly to the lake.
- Development of the robust waste management infrastructure at upstream is key to addressing water quality issues. Nature-based infrastructure offers a promising waste management solution
- The urban setting WQ issues are associated with waste generation while the rural settings are typical characteristics of agricultural, soil erosion and sedimentation/siltation



WATER QUALITY TECHNICAL WORKING GROUP CONDUCTED CONSULTATIVE MEETINGS WITH KEY RELEVANT WATER QUALITY STAKEHOLDERS IN THE SELECTED HOTSPOTS TO DISCUSS AND CONFIRM WATER QUALITY INDICATORS, COLLECT PRELIMINARY INFORMATION ON WATER QUALITY DATA AND INFORMATION AND ESTABLISH CONTACTS WITH CUSTODIANS OF AVAILABLE OBSERVED HISTORICAL WATER QUALITY DATA.

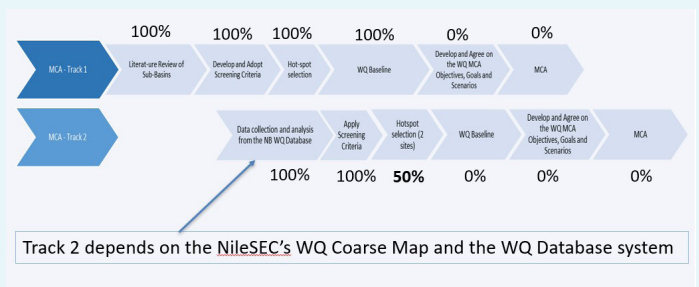
HIGHLIGHTS OF THE EASTERN NILE WATER QUALITY HOTSPOT

Features of the selected water quality hotspot on the Eastern Nile (EN): Gilgel Abbay – Ethiopia

- Surface water pollution problem of Gilgel Abbay River arise due to lack of proper management of watershed areas leading to excessive erosion and entrainment of nutrients and organic matter in run-off. Therefore, prioritization watershed and erosion management will help reducing the sediment and nutrient load of the water resources;
- Water quality deterioration peaks during the rainy season.
- A pollutant source inventory of Gilgel Abbay River is needed to know the source wise contribution of nutrients to the river
- The vegetative buffer zone which plays a significant role in terms of sediment retention, nutrients and heavy metals stripping and others useful ecological, hydrological, climatic functions should be delineated for Gilgel Abbay River and its main tributaries;

« The ultimate Output is to create a system and practice where Water Quality Investments are vetted well on multiple criteria that are priorities to stakeholders and governments in these hotspots, to justify their importance »

COMPLETED SO FAR (SEPT. 2023)



ABOUT NILE EQUATORIAL LAKES SUBSIDIARY ACTION PROGRAM

The Nile Equatorial Lakes Subsidiary Action Program Coordination Unit (NELSAP-CU) headquartered in Kigali, Rwanda, is one of the two investment programs of the Nile Basin Initiative (NBI), the other being the Eastern Nile Subsidiary Action Program (ENSAP) headquartered in Addis Ababa, Ethiopia known as Eastern Nile Technical Regional Office (ENTRO).

NELSAP-CU was established in December 1999 by the Council of Ministers for Water Affairs in the Nile River Basin, with a mission to “contribute to the eradication of poverty, promote economic growth, and reverse environmental degradation in the Nile Equatorial Lakes (NEL) region, within the overall NBI’s shared Vision of sustainable socioeconomic development and the equitable use of and benefit from Nile Basin water resources”. NELSAP-CU is governed and reports to the Council of Water Ministers from 10 Nile Basin membership states of Burundi, DR Congo, Egypt, Ethiopia, Kenya, Rwanda, South Sudan, Sudan, Tanzania and Uganda.