



ENTRO
NILE BASIN INITIATIVE
INITIATIVE DU BASSIN DU NIL

NILE - FLOW VOLUME 18

January – June 2025

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About the Newsletter

ENTRO produces a magazine called Nile - Flow. We print free copies, which are sent to our governance members, line ministries, stakeholders in the eastern Nile Region, NBI Centers, our Development Partners and counterparts across the world.

Nile - Flow features institutional and technical information related to Nile water cooperation activities undertaken by Eastern Nile Technical Regional Office (ENTRO), Eastern Nile countries and partners.

What is in the Name?

We have chosen “Nile -Flow” as the name of our Newsletter.

Nile – Our great river!

Flow – The flow of our great river,
running through the Four sisterly Eastern Nile Subsidiary

Action Program (ENSAP) Countries of Egypt, Ethiopia, Republic of South Sudan, and the Sudan; connecting the people, their cultures, their histories, their livelihood, and shared destinies since time immemorial.

In the psychological sense also symbolizes a feeling of energized focus, of total engagement, and success in the activity being undertaken– i.e., in the ENSAP cooperation process we are all engaged in. Thus, the twin message: a description of reality, on the one hand, and a statement of hope, vision, and purpose on the other.



MESSAGE OF EXECUTIVE DIRECTOR



Eastern Nile Technical Regional Office (ENTRO) has been established by the Eastern Nile Council of Ministers (ENCOM) in June 2002 to identify, prepare, and facilitate implementation of cooperative projects within the Eastern Nile basin. The overall purpose of ENTRO is to support ENSAPT and ENCOM in the complex task of developing, implementing, and managing the multi-country Eastern Nile Subsidiary Action program. ENTRO country members are Egypt, Ethiopia, South Sudan and Sudan.

In this Nile Flow newsletter, a variety of topics are covered, which relate to the main recent ENTRO activities that have taken place over the past six months.

ENTRO believes that the cooperation among the Nile Basin countries in general and the Eastern Nile in particular, can only be achieved through strong engagement of the stakeholders in the different ENTRO activities.

This is clearly reflected in the topics covered in this edition of the Newsletter.

These include ENTRO Governance meetings, workshops/events, projects, projects discussions with our Development Partners, staff news, upcoming initiatives, and engaging conversations.

ENTRO would like to inform our esteemed readers that our newsletter and other documents including valuable reports on our projects can be found on our website <http://entro.nilebasin.org/>, ikp.nilebasin.org.

We encourage our readers to stay updated on the latest activities at ENTRO by continuing to read our materials.

Thank you for staying connected with us.

Eng. Teshome Atnafie.
Acting Executive Director and
Senior Regional Project Coordinator,

PROJECTS

NBI/ENTRO PROJECT ACTIVITIES

The Eastern Nile Technical Regional Office (ENTRO) has been established by the Eastern Nile Council of Ministers (ENCOM) in June 2002 to identify, prepare, facilitate implementation, and coordinate cooperative projects within the Eastern Nile basin. The overall purpose of ENTRO is to support ENSAPT and ENCOM in the complex task of developing, implementing, and managing the multi-country Eastern Nile Subsidiary Action Program (ENSAP).

ENTRO is governed by ENCOM as the highest decision-making body, assisted by the Eastern Nile Subsidiary Action Team (ENSAPT), composed of three senior technical officials from each Eastern Nile (EN) member country.



ENSAPT Members,



ONGOING PROJECTS

1. Nile Cooperation for Climate Resilience Project (NCCR)

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.

2. Regional Climate Resilient Project (RCRP)

Components:

- 1: Risk Management and Climate Financing
- 2: Infrastructure Investments and Sustainable Asset Management for Climate Resilience
- 3: Adaptive Climate Services for Resilient Communities
- 4: Project Management

3. Coordinated Operation of Cascade Damo (COCD)



ONGOING PROJECTS

PLATFORM FOR COOPERATION

INTERNSHIP AND YOUNG PROFESSIONALS:



Interns during class @ ENTRO Head office.

ENTRO has taken the initiative to establish an internship project as part of its core activities and successfully implemented in the last 14 years. This project has proven immensely popular in fostering cooperation and allowing ENTRO to expand its professional network. The internship program started in 2011 when ENTRO worked with the World Bank to modify the implementation arrangement of the Eastern Nile Planning Model (ENPM) project. This has helped ENTRO to engage the countries through partnership with scientific communities (EN universities).

The Internship Project has proven more effective in terms of building in-house capacity and bringing a diversity of expertise and outreach opportunities to ENTRO and academia. It has made a significant contribution to ENTRO in terms of enhancing and developing new analytical tools and knowledge products.



On the other hand, ENTRO also enhanced the capacity of interns through facilitating training in various areas related to ENTRO projects.



Interns during Graduation ceremony

Goal

The goal of the internship project is to empower young people from the Eastern Nile countries to support the emergence of a shared understanding about the resource base—its potential, the risks it is facing and its future. So far ENTRO has implemented the 8th batch according to the project implementation plan.

Flood and Drought Risk Mitigation

The flood and drought risk mitigation project contributes to improving mechanisms for cooperation in the Eastern Niles riparian countries in a challenging hydro-political environment by focusing primarily on

provision of flood and drought risk mitigation services built on ENTRO's achievements in flood forecasting since 2010 and recently on Nile wide drought risk mitigation work. Some details on update of activities done and remaining work are given below.

A. Flood Risk Mitigation (FRM)



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The FRM project has three components: (a) WP1: Surveying and Data Collection completed, (b) WP 2: FFEW enhancement and Flood Risk Mapping - completed, and © WP 3: Support in Establishing Flood Community Awareness and Preparedness - ongoing.

WP1: Surveying and Data Collection (completed):

Ground and EO based flood topography survey, asset and community data collection completed on 15 Jan 2024, after one year work, through firm consultancy work of CMC & MEEQ, in which products were reviewed through regional inception and validation physical workshops with the following deliverables:

- Topographic survey was completed for Atbara, Humera, Malakal, Akobo, Nassir, Pibor, Gambela and Itang. Asset maps for 9 sites completed and delivered to WP2 Consultant.
- Database conceptualization, data categorization (TS and Spatial datasets), Software development, reviewed at workshop and tested and implemented at ENTRO and operational.
- Community field survey completed, and report produced for flood prone communities at Akobo, Malakal, Pibor, Nasir, Gambela and Itang. These data were shared to WP2 and WP3 consultants.

WP 2: EN-FFEWS enhancement and Flood Risk Mapping (completed):



EN-FFEWS enhancement and flood risk mapping, after one year work, completed in June 2024, through firm consultancy work of DHI, in which products were reviewed in regional inception and validation physical workshops with the following deliverables:

- Enhanced EN-FFEWS system completed and is operational for TSA, Blue Nile Lake Tana, and BAS (at 35 forecast locations, rainfall over 55 catchments). The model is in public domain. EN-FFEWS Flood hazard maps for 16 flood prone areas produced and shared with WP3 consultants.
- Flood vulnerability and risk maps for 16 flood prone areas.
- Capacity building training conducted, on the enhanced EN-FFEWS for the national FFC experts of Ethiopia, South Sudan and Sudan. The advanced training was recorded for future re-use.

WP 3: Support in Establishing Flood Community Awareness and Preparedness (ongoing).

Update on works done: Support in Establishing Flood Community Awareness and Preparedness WP3 contract signed with MetaMeta and HKV on 15 Feb 2024; and inception workshop conducted on 4-5 April 2024 in Ethiopia.

The consultant delivered on 20 August 2024, Flood Management Strategies for each of the 17 flood prone sites (7 sites in Ethiopia – TSA, Lake tana, BAS; Four In South Sudan in BAS; and 6 in Sudan in TSA), and Community specific flood action Bulletins for each of the 17 flood prone sites.

In Dec 2024, the Consult delivered the following final reports:

- Flood Management Strategies for the flood prone communities Report (17 sites)
- Community specific flood action bulletin (17 sites).
- Community Flood Preparedness Workshops
- Flood community awareness, preparedness plans; and implementation Plan (17 sites)
- Flood Protection and Investment Guide (Flood Protection Report for 17 sites).
- National Flood Preparedness Training Sessions and Its report completed

¹ 17 flood prone sites produced: Ethiopia: Lake Tana: 1. Robit Kebele East Dembiya Woreda; 2. Woyena Tana Kebele. East Dembiya Woreda; 3. Kidist Hana community Fogera; 4. Nabega community Fogera); 5. Gambella City 01 and 02 Kebeles; 6. Gambella City 04 Kebele; 7. Itang; South Sudan: 1. Malakal city, 2. Pibor town, 3. Nasir town and 4. Akobo town. Sudan: 1. Sidon town; 2. Atbara city – Atbara River; 3. Atbara city - Nile River; 4. Kassala city, Talata Kabarey; 5. Kassala, Degain and New Hamshkouraid; 6. Kassala, Tendlay and Matateb)



Community specific flood action bulletin for the 17 sites is under translation and will be printed with relevant local language (English, Amharic & Arabic), and be completed by July 2025.

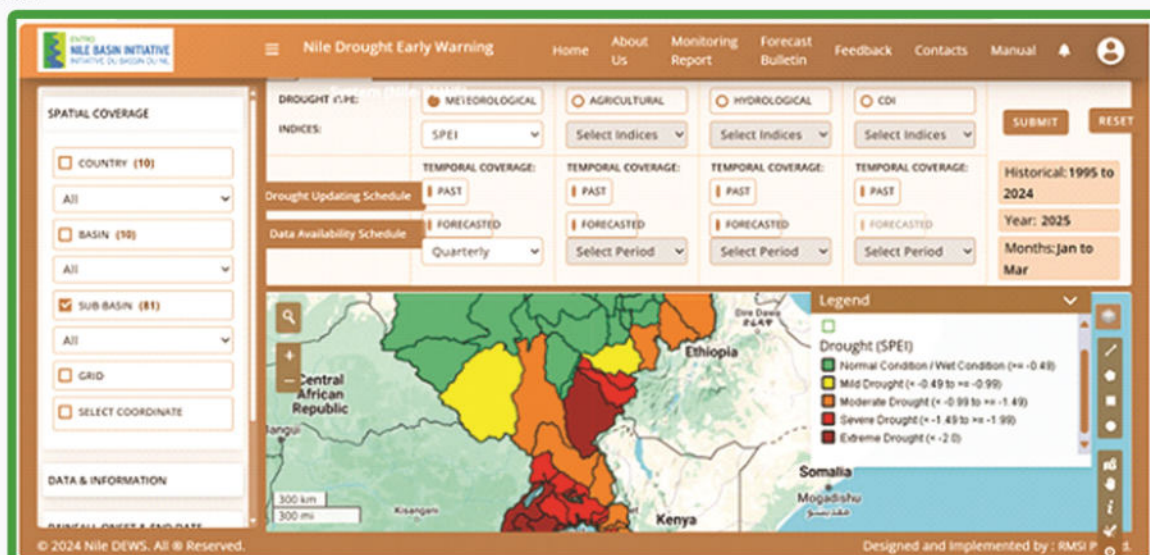
B. Drought Risk Mitigation

The development and implementation of Nile Drought Early Warning System (Nile DEWS) through firm consultancy with RMSI has been undergoing since 11th October 2023 based on the Nile basin drought early warning need, and data / knowledge gap assessment conducted by ENTRO in 2022.

Version 1 Nile DEWS product has components of meteorological, hydrological, and agricultural drought monitoring and forecasting; surface water body identification and change detection, data systems for information sharing / user engagement & validation & impact reporting tool.

Version 1 of the Nile DEWS assessed and provisionally validated by Nile TAC + FDTWG during the regional workshop held from 20-21 January 2025 in Nairobi, Kenya.

Final Version 2 –Nile DEWS products were validated by Nile TAC 2-3 May 2025, at Entebbe, Nile DEWS development was completed mid-May 2025, with full installation in the NBI cloud server and ENTRO local server is undergoing and to be completed by June 2025 and will be online for the public.



ENTRO Consultation, capacity building, flood prone area field visit and other activities

ENTRO strengthened capacities of the EN national forecasting centers; and conducted community level flood awareness and preparedness training for Ethiopia, South Sudan, and Sudan including.

- FFC Ethiopia expert training conducted at Hawassa from November 27 – 29, 2023.
- FFC experts training for South Sudan and Sudan experts conducted in Juba from: 16-18 Jan 2024.
- Community level awareness training South Sudan and Sudan conducted in Juba from: 19-20 Jan 2024.
- Community level flood awareness training for Ethiopia (participants from Lake Tana and Gambela flood prone areas) was done 16-17 May 2024 in Hawassa, Ethiopia.
- Community level flood awareness training for South Sudan and Sudan (participants from Malakal, Pibor, Akobo, Nasir, Juba; Port Sudan, Atbara, Kassala, flood prone areas South Sudan (29 p) & Sudan (9) from 13-14 March 2025.
- FFC experts training for South Sudan (19) and Sudan (9) experts training conducted at Juba from 10-12 March 2025) at Juba .

Benefits to the EN Countries so far:

- The Flood and Drought Risk Mitigation project created a collaborative platform for the EN countries to work together through physical workshops, some data sharing, on working groups meeting and joint approval ENTRO products.
- Flood forecast information provided by the enhanced EN-FFEWS (through WP2 work) has been utilized by the three countries and other stakeholders to save lives and their assets, and the 2024 forecast generation and dissemination are going on. The EN-FFEWS

The EN-FFEWS has a potential to benefit about 2 million people residing in the flood prone areas in the EN. The FFC national experts every year are hosted at ENTRO for training and to issue FFEW with ENTRO experts. ENTRO regularly disseminates 3-day ahead forecast flood forecasts to the three countries' Water Affair Ministries and to > 200 other stakeholders. The EN-FFEWS services are also online for the public. The Water Affair Ministry uses it as one input for their decisions to issue warnings for the flood prone areas.

Last year, Amhara RS South Gondar DRMC has been utilizing ENTRO forecast as one input for their local decision (Gumara flood case was ahead forecasted by ENTRO, Rib River overflowing the Bahir Dar-Gondar bridge near Adis Zemen, on 06 Aug 2024). WhatsApp based communication set by Ethiopia Flood intern facilitated the dissemination of forecast and receiving ground condition to and from the Zonal level flood managers in Lake Tana.



- Ethiopia, South Sudan and Sudan acquired the latest floodplain topographic map (DEM) and asset maps through (WP1 work), which were shared to the countries and the countries can also be used for other engineering works.

- The Flood Risk Mitigation project activities have strengthened national offices (equipment and training) in terms of capacity and overall reduced the risk of flood devastation for ~100,000 million people in the flood prone areas Lake Tana, Atbara, Blue Nile and Baro-Akobo subbasin.

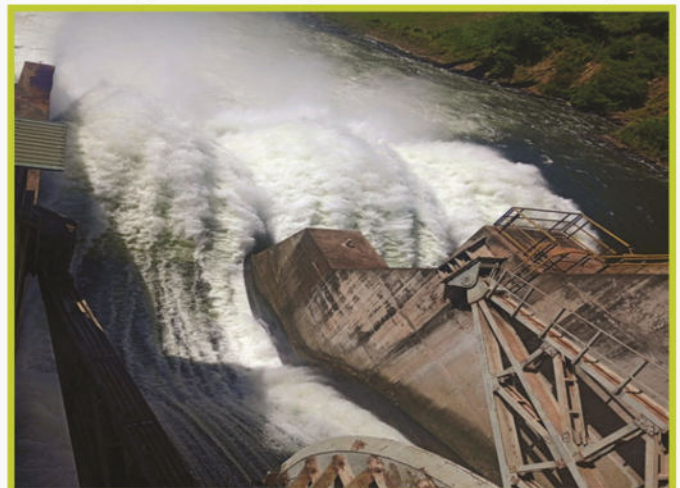
• Preparation is undergoing by ENTRO for the 2025 Flood season to develop forecast and issue flood warning using the EN-FFEWS in conjunction with capacity building of the three countries national flood interns. Drought Early Warning will also be issued for the 2025 Rainy season using Nile DEWS.

The current ongoing study aimed at improving the capacity of the riparian countries to manage risks related to the safety of dams and downstream communities and address the inter-dependencies associated with dams in transboundary basins may result in serious impacts across boundaries.

The study has the following sub-components: Basin wide Reference Dam Safety Regulatory Framework and Implementation Strategy to Support Member States to develop their own National Framework.

- Establishment of a Regional Dam Safety Training Center.
- Capacity Building include strengthening of National Dam Safety Units.

The implementation of these sub-components is going smoothly.



REGIONAL CLIMATE RESILIENT PROGRAM (RCRP) FOR EASTERN AND SOUTHERN AFRICA.



RCRP Meeting

The purpose of this project is to improve regional preparedness for the increasing frequency, intensity, and impact of water related climate shocks on people, livelihoods, infrastructure, and ecosystems.

The objective of the Regional Climate Resilience Program for Eastern and Southern Africa Project is to improve the management of water-related climate impacts in Eastern and Southern Africa, and, in case of an Eligible Crisis or Emergency, to respond promptly and effectively to it.

Components of the Project

Component 1. Risk Management and Climate Financing

- 1.1. Climate and Disasters Risk Management
- 1.2. Climate Financing



Component 2. Infrastructure Investments and Sustainable Asset Management for Climate Resilience

- 2.1. Enhancing institutional capacity for long term climate risk management
- 2.2. Closing the climate resilient infrastructure gap
- 2.3. Sustainable Asset Management

Component 3. Adaptive Climate Services for Resilient Communities

- 3.1. Community outreach
- 3.2. Mainstreaming climate resilience in social protection programs

Component 4. Project Management

Component 5. CERC

- For Comoros only: Contingent Emergency Response (CERC) mechanism
- 2.2 and 3.2 are not implemented in Nile Basin

Project Beneficiaries

A. Regional Institutions: SADC and ENTRO's capacity will be enhanced through their participation in tailored technical training and others.

B. National Institutions: Institutions responsible for Hydromet and early warning systems, disaster risk management, and water resources management at the regional, national and subnational levels, including line Ministries, government agencies, national authorities, and agencies at the national and sub-national levels.

C. Community-Level: Vulnerable communities and families will directly benefit from improved early warning systems and preparedness capacity.

NEWS AND EVENTS

COURTESY VISIT



Honorable Engineer Dawalbait Abdulrahman Mansour, Minister of Water Resources and Irrigation for the Republic of Sudan, along with ENSAPT leader and other Officials of Sudan, visited ENTRO.

During the Curtesy visit, Acting Executive Director Eng. Teshome Atenafie warmly welcomed H.E. the minister and other Officials and provided an overview of ENTRO's status including issues related to country Contribution and donor's support. Discussion made on the currently implemented projects by ENTRO such as the Nile Cooperation for Climate Resilience (NCCR) and the regional climate resilience project (RCRP).



During the discussion H.E. the Minister of Water resources and Irrigation Hon. Eng Dawalbait Abdullrahman stated the importance of supporting ENTRO to deliver its responsibilities. H.E. the Minister reaffirms his commitment to support ENTRO in resources mobilization and other related activities.

Cooperation and mutual understanding are essential for overcoming challenges and achieving a positive outcome that benefits the member states in the Eastern Nile Sub-Basin.”

H.E. reiterated that during the forthcoming ENTRO Governance meeting all issues related to ENTRO will be discussed and appropriate guidance will be given.

The 38th Eastern Nile Subsidiary Action Program Team (ENSAPT) Meeting has been Conducted in Addis Ababa, Ethiopia



ENSAPT Meeting Participants.

The highly anticipated Eastern Nile Subsidiary Action Program Team (ENSAPT) 38th meeting took place on 20th February 2025. The primary objective of this governance meeting is to review overall plan and performance of the organization, which includes both technical and financial performances, audit reports, and human resources matters within ENTRO for the period spanning from July 2024 to December 2024.

The meeting brought together ENSAPT Leaders, NBI ED, and ENTRO Technical staff. The session commenced with opening remarks from ENTRO Acting Executive Director, Eng. Teshome Atenafie. Eng. Teshome expressed his gratitude to all participants for accepting ENTRO's invitation and attending the meeting.

He emphasized the importance of addressing all agenda items as planned and resolving any issues to ensure the sustainability of our organization and support ENTRO in fulfilling its roles and responsibilities. Eng. Teshome also extended his thanks to all development partners for their unwavering efforts in addressing challenges in the eastern Nile basin and contributing to the development and management of water resources in the region.

Eng. Teshome urged ENSAPT leaders the issue of Country Contribution as a critical Issues and to carefully consider this issue and provide recommendations or guidance on how ENTRO can navigate through this challenging situation. Eng. Teshome then invited NBI Executive Director, Dr. Florence Adango, to deliver opening remarks.



During the meeting the NBI Executive Director Dr. Florence Grace Adongo on her opening remarks, emphasized the importance of critical decisions that require the attention of ENSAPT. These decisions include approving work plans and budgets to ensure the smooth operation of the institution. Additionally, the NBI Executive Director highlighted that the Secretariat oversees various basin-wide programs, either directly or through coordination, that are implemented across all three centers.

These programs require collaborative decision-making and unity among all stakeholders. Dr. Florance, the NBI Executive Director, stressed the significance of each country's contribution to the success of these initiatives. She expressed her gratitude to the acting Executive Director for effectively managing the institution during this time and wished for a fruitful and effective meeting.



ENSAPT Members.

The Chair of ENSAPT, Dr. Zebene, marked the uniqueness of the 38th ENASPT Meeting being held in Addis Ababa, marking the 26th anniversary commemoration of the birth of the Nile Basin Initiative.

The Chair highlighted the importance of this meeting as an opportunity to reflect on ENTRO's achievements, address challenges, and strategize for the future

Stakeholders and Strategic Partners Consultation Workshop on Implementation Strategy of the Training Centre and Dam Safety Awareness Creation.



The Consultation Workshop (March 3, 2025).

The Consultation Workshop with Government High-level policy Makers, professionals and other stakeholders was held at the Sheraton Addis. The main objective of this workshop is to review the status of establishment of the Regional Dam Safety Training Center, as well as the implementation strategy. Additionally, the workshop aims to identify the roles and responsibilities of NBI Centers, and the countries involved in starting these centers.



*ENTRO Acting Executive Director
Eng. Teshome Atnafi*

Eng. Teshome highlighted ENTRO's decade-long work experience in dam safety activities and thanked partners for their support in implementing capacity-building initiatives.

The goal of the Dam Safety Center is to provide a hub for knowledge sharing, research, and skill development in dam safety management to ensure the safety of dams. ENTRO Acting Executive Director also thanked partners for supporting NBI/ ENTRO to implement the Dam Safety Capacity building related activities.



After the speech by the Acting Executive Director of ENTRO, the stage is taken by the Executive Director of the Nile Basin Initiative, Dr. Florence Grace Adongo.



The Executive Director (ED) of the Nile Basin Initiative,
Dr. Florence Grace Adongo

Accordingly, The Executive Director (ED) of the Nile Basin Initiative, Dr. Florence Grace Adongo, is grateful to Ethiopia for their support in maintaining Nile Cooperation. She highlighted the need for a unified regulatory framework for water resource management to ensure sustainability and fair access to water. Dr. Adongo emphasizes the importance of coordinated actions, strong policies, and regional cooperation to address these challenges and safeguard water security for current and future generations.

The ED states that the establishment of a Regional Dam Safety Training Centre will provide policymakers, regulators, and dam operators with the necessary knowledge and skills to proactively manage risks, enhance dam safety, and protect lives and livelihoods.

NBI ED, Dr. Florence Grace, cordially invites His Excellency Dr. Ing. Habtamu Itefa to official the opening of the workshop.



H.E. Dr. Ing. Habtamu Itefa, the Minister of Water and Energy of Ethiopia

H.E. Dr. Ing. Habtamu Itefa, the Minister of Water and Energy of Ethiopia, welcomed participants to Addis Ababa on behalf of the Government of Ethiopia. He congratulated them on the decision taken to establish the Nile Centre of Dam Safety during the Council of Ministers meeting. This initiative is crucial for addressing the common challenge of inadequate dam safety management in the region. H.E. Dr. Ing. Habtamu emphasized the importance of training experts in dam safety management and equipping stakeholders with best practices to mitigate potential risks. His Excellency highlighted the need for collaboration within the framework of the NBI initiative to strengthen dam safety management across member countries and regions. The government of Ethiopia is committed to supporting this plan in partnership with stakeholders and valued partners. H.E. The Minister thanked the World Bank for their support in establishing the center for dam safety and officially opened the workshop, wishing for fruitful deliberations.

The participants of the Consultation workshop are from Government High-level officials, International Partners (from Canada, Canadian Dam Association), USA (US Army Corps of Engineers), Austria (Austrian Large Dam Association/Graz University, and, Norway (International Hydropower Association), Regional Partners from Zambia (Zambezi River Authority) and Nigeria, NBI Centers (ENTRO, NELSAP and Nile-SEC). Following the opening remarks expertise and Consultants present different topics related to Dam Safety capacity Building and discussion continued.



Inception Workshop on Water Smart Irrigation Study.



Inception Workshop Participants.

The Inception workshop was held from the 16th – 17th January 2025 Entebbe, Uganda with the objective of consulting and gathering feedback from stakeholders and the Technical Working Group of the Nile Basin Water Resources. The workshop included representatives from the three centers of Nile-Sec, ENTRO, NELSAP-CU, as well as experts from the World Bank. The focus of the workshop was to review and provide feedback on the methodology proposed by the Consultant.

The specific objectives of the workshop are to:

- Provide an overview of the scope and objectives of the study.
- Assess and provide feedback on the consultant approach and methodology presented in the draft inception report.
- Increase stakeholders' awareness of cutting-edge water smart irrigation to enhance irrigation efficiency in the Nile Basin.



The workshop participants consist of experts and Technical Working Group (TWG) members from the Nile Basin countries, such as Burundi, DR Congo, Ethiopia, Kenya, Rwanda, South Sudan, Sudan, Tanzania, and Uganda. In addition, experts from Nile-SEC, NELSAP-CU, and consultants are also present at the workshop.

The following outputs have been achieved from the workshop: -

- assessment and feedback on the consultant approach and methodology presented in the draft inception report, revised methodology and detailed workplan, additional information related to the water smart irrigation in the Nile Basin countries, training and capacity-building plan,
- Participants awareness on the state of art on water- smart irrigation technologies

Consultation and Validation Workshops Development of a Nile Basin wide Drought Early Warning System (Nile DEWS).



The Consultation and Validation workshop Participants.

The Consultation and Validation workshop took place in Nairobi Kenya from 20th -21st January 2025. This consultation and validation physical workshop are focusing on reviewing the developed draft Nile DEWS and getting feedback. The workshop deals with user design input/ preplanning/inception assessment to enhance the Nile DEWS proposed methodology and approach. The Nile Basin Flood and Drought Technical Working Groups (NB-F&D-TWG) provide their in-depth review. Moreover, the workshop will introduce the project to Nile Basin countries experts for their continuous engagement and getting their support, and collection of preliminary information from national and regional levels.

The overall objectives of the workshop are to present the developed Nile DEWS, to carefully assess the functionality, and initially validate the Nile DEWS and its deliverable reports. Furthermore, the workshop will create a cooperative platform to jointly engage the Nile basin state countries in managing drought risk and facilitate the implementation afterwards.



The workshop was attended by TAC members from each of the nine countries, experts representing NB-F&D-TWG members from the NB countries, NELSAP-CU, Nile-Sec, NBD, professional participants from ENTRO, resource persons (experts reviewing the Nile DEWS model and reports), and RMSI consultants.

The workshop produces the following outcomes:

- Improvement in areas identified and Nile DEWS technically validated by each country on site specific reports.
- Draft Nile DEWS product disseminates sustainability and high usability of the project output.
- Enhancement in Participants' awareness and joint activities related to Nile DEWS.

**Regional Climate Resilience Program(RCRP) for Eastern & Southern Africa
Consultative Debriefing Meeting on the YABUS and BAS
Terms of Reference(TOR)**



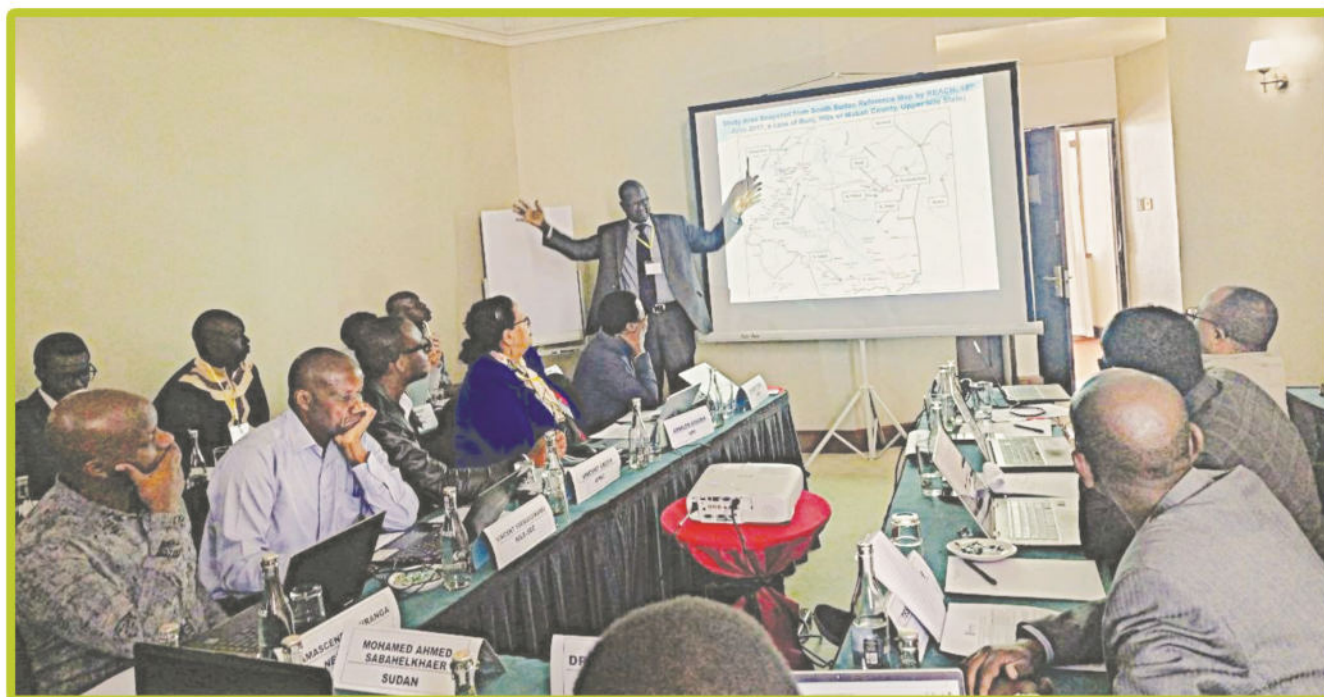
Consultative Debriefing Meeting Participants

The Consultative Debriefing Meeting took place in Kenya, Nairobi on January 22, 2025. The meeting highlights the stakeholders 'representatives to understand the TOR, including the study objective, rationale, activities to be carried out, expected products, implementation arrangements, timeframe, obligations, coordination, reporting and monitoring of this feasibility study.

Specifically, the meeting will highlight/explore with the stakeholders' representatives on:

- 1) synergies and potential opportunities of these two studies with the ongoing national RCRP project in South Sudan as well as the past, ongoing and planned following related activities of ENTRO.

- 2) strengthening of relationships with the key national water sector institutions/centers in Ethiopia, South Sudan and Sudan.
- 3) the study areas of collaboration/partnership with the components and activities under regional entities.



The Debriefing Meeting on the Yabus and BAS Terms of Reference (TOR), will aware the national stakeholders from Ethiopia, South Sudan and Sudan; and the regional entities of scope, details and methods and procedures of work. The emphasis being to enlighten and sensitize all the stakeholders at all levels to cooperate and facilitate implementation of the project activities when they are started.

From the meeting the following outcomes are expected: -

- Raised awareness on the RCRP in general, and on the Yabus and BAS studies in particular.
- Understanding of the Yabus and BAS studies' outcomes and their improved potential uptake in the future by respective stakeholders in Ethiopia, South Sudan and Sudan.

- Enhanced coordination with national stakeholders.
- Identification of collaborative areas and enhanced partnership with national and regional entities.
- Enhanced activities implementation arrangements.

The participants of the meeting are from ENTRO, NELSAP-CU, NILE SEC, ICPAC, NBD, Ethiopia, South Sudan and Sudan.

10th NCCR Internship Graduation Ceremony



The 10th NCCR Internship Batch has enrolled 10 Interns from the three Eastern Nile Countries (4 from South Sudan, 3 from Sudan, and 3 from Ethiopia) to the ENTRO Internship and Young Professional Program.

These interns have been participating in training and capacity-building activities with the theme “Eastern Nile Drought Assessment” organized at ENTRO for the past three months, starting on November 1st to January 31st, 2025.





The main objective of the assessment is to quantify and monitor trends of categorical drought and its spatial and temporal distribution in the Eastern Nile Basin as well as update database at ENTRO for drought assessment. The 10th batch of NCCR interns were engaged in the "Eastern Nile Drought Assessment" project divided into two themes:

Theme I: Eastern Nile Meteorological and Hydrological Drought Assessment

The assessment has been focused on hydrological and meteorological drought

monitoring and trend analysis in the Eastern Nile sub basin, using the streamflow drought index (SDI), standardized precipitation index (SPI), respectively.

The Assessment has also looked into the interrelationships between the two drought indicators. The SDI and SPI were calculated using long-term streamflow and precipitation data collected from 1981 to 2021.



Theme II: Agricultural Drought Assessment.

This study aims to monitor agricultural drought in the Eastern Nile Basin using satellite-based drought indices from MODIS dataset, given the region's data scarcity. The research primarily utilized NDVI (Normalized Difference Vegetation Index), EVI (Enhanced Vegetation Index), and VCI (Vegetation Condition Index) to monitor agricultural drought. NDVI and EVI were used to analyze temporal drought trends,

while an in-depth Spatio-temporal and frequency analysis were conducted using VCI for the four main sub-basins: Blue Nile, Main Nile, Baro-Akobo-Sobat, and Tekeze-Setit Atbara.

After the Interns complete their work and deliver a presentation, the graduation ceremony was held in the presence of ENTRO management and technical staff.

The 2nd Training Workshop on Gender Equality for Eastern Nile Countries.



The 2nd Training Workshop on Gender Equality for Eastern Nile participants.

The training workshop on Gender Equality has been conducted in Nairobi Kenya from April 22 -23, 2025 with the primary goal of providing participants with a foundational understanding of gender equality concepts, particularly in relation to transboundary water issues. Additionally, the workshop aims to equip participants with practical skills to effectively incorporate gender considerations into their planned activities, projects, and programs.

The training workshop commences with welcoming remarks from ENTRO Acting Executive Director, Engineer Teshome. Engineer Teshome provides a warm welcome to all participants and consultants attending the Gender Mainstreaming training.

Acting ED emphasized that gender roles can influence vulnerability to climate change, highlighting the importance of gender equality in all development decisions. This includes the composition of participants, procedures, and cultures within development organizations, as well as the responsibility of both men and women.

Acting ED Teshome underscores the crucial role of women as key actors in driving positive change. The meeting is expected to serve as a platform for exchanging insights into the current situation, potential future directions, and mechanisms for promoting gender-sensitive programs, projects, policies, strategies, and actions. Engineer Teshome expresses his hope for fruitful deliberations throughout the workshop.

Eng. Thomas Jank, a member of ENSAPT, was invited to give remarks. Thus, Eng. Thomas expressed his gratitude to ENTRO for the efforts put into organizing the workshop and emphasized the importance of enhancing gender engagement within institutions. He highlighted the need for both men and women to contribute to the water sector, noting the

low representation of women in attendance. Despite government mandates for female representation, progress has been slow, especially in countries like South Sudan. Eng. Thomas also thanks the World Bank, and CIWA.



Dr. Zebene Lakew, Chair of ENSAPT, warmly welcomed participants to the 2nd Training Workshop on Gender Equality for the Eastern Nile Countries. He stressed the significance of the training, stating that it would foster a more inclusive and fairer environment for policymaking, decision-making, and project implementation. Dr. Zebene underscored the necessity of gender equality in all projects, from the grassroots level to high-level decision making processes. Dr. Zebene Lakew, Chair of ENSAPT, officially opened the meeting

The meeting included presentations by consultants Ellen Hagerman, specializing in Gender and Social Inclusion, and Fekahmed Negash Nuru, an expert in Water Resources Management, Transboundary Waters, and hydro diplomacy. Following the presentations, participants from Ethiopia, Egypt, South Sudan, and Sudan engaged in group discussions and reflections.



Establishment of Gender Forum for Eastern Nile Basin.



Gender Forum participants.

The Establishment of the Forum took place from April 25-26 Nairobi Kenya with the over all goal enhancing the involvement of women as decision-makers and leaders in the transboundary water sector. This can be achieved through the collective engagement of Male Champions for Gender Equality and women working in the transboundary water sector.

The main objective for creating the Gender Forum in the Eastern Nile Basin is to establish a mechanism to enable men to play a more active role in the promotion of gender equality and women's empowerment in transboundary waters institutions in the Eastern Nile while working in tandem with women engaged in the sector.



The forum commenced with opening remarks from ENTRO Acting Executive Director, Eng. Teshome Atnafie. Eng. Teshome warmly welcomed all participants and consultants attending the Gender Mainstreaming training. He emphasized that launching the Gender Forum in the Eastern Nile Basin will increase the involvement of women as decision-makers and leaders in the transboundary water sector.

Eng. Teshome highlighted that this goal can be achieved through the participation of Male Champions for gender equality and women working in the transboundary water sector. He also stressed the importance of development partners in supporting the Forum to address challenges related to gender imbalance in the region. ENTRO Acting ED invites ENSAPT Chair Dr. Zebene Lakew to officially open the meeting.



Accordingly, Dr. Zebene Lakew emphasized the importance of addressing gender issues in the basin, as they play a crucial role in promoting equality and sustainable development. He highlighted the need for collaboration and cooperation among all stakeholders to ensure that gender considerations are integrated into all aspects of water resource management. The forum provided a platform for sharing best practices, exchanging ideas, and developing strategies to advance gender equality in the basin. Dr. Lakew urged participants to work together towards creating a more inclusive and equitable society where everyone has equal opportunities to thrive.

With Dr. Zebene's declaration, the forum had officially begun, setting the stage for a productive and inspiring event ahead. The forum brings participants from ENSAPT, ENTRO management and staff, Gender experts from Eastern Nile Countries, Media people, Active Male champion members from NBI, gender focal points of NBI and people from other sectors are part of the forum.

The Training of Trainers (ToT) Workshop on Eastern Nile Water Resources Models and Tools held in Bishoftu, Ethiopia



TOT Workshop Participants.

The TOT workshop took place from May 06 to May 10, 2025, with the primary goal of enhancing the skills of water resource practitioners from Eastern Nile member countries in utilizing advanced models and tools for effective water resources management. The training consists of a combination of plenary and parallel sessions.

This workshop aimed to enhance competency, improve decision-making skills, and promote collaboration among participants.

This training workshop aimed to enhance water resources management practices in the Eastern Nile countries by focusing on key modeling areas and providing Training of Trainees (ToT). A total of 47 participants from EN Countries (Ethiopia, South Sudan, and Sudan), NELSAP-CU, and Nile SEC took part in the workshop.



The participants were experts in various fields including hydrology, water resources engineering, IT and information management, water resources modeling, and GIS & RS. Their diverse backgrounds and expertise contributed to a comprehensive and enriching learning experience during the workshop.

The ToT workshop delivered the following key outcomes:

- 1. Enhanced Competency:** Participants acquired practical skills in utilizing the specified models and tools.
- 2. Improved Decision-Making:** Better informed decisions in water resource management will be made through the application of these tools.
- 3. Strengthened Collaboration:** A network of professionals equipped to collaboratively address challenges in water resource management.



Overall, the workshop aimed to empower participants with the necessary skills and knowledge to effectively manage water resources and foster collaboration within the professional community.



Validation Workshop on the Development of Eastern Nile Water Resources Planning Models and Tools

The validation workshop is being held in Addis Ababa, Ethiopia, from June 12 to June 14, 2025. The primary objective of this workshop is to validate the methodologies, tools, and outputs developed across six work packages, while also gathering feedback from stakeholders to ensure their relevance and effectiveness.

Participants in this workshop include experts in water resources modeling, water resources planning, and sediment transport modeling from the Eastern Nile (EN) countries. Additionally, members of the Regional Technical Working Group and representatives from the Nile Basin Initiative (NBI) centers are also in attendance.

The validation workshop proceeded with opening remarks. Accordingly, Eng. Teshome Atnafie, Acting Executive Director of ENTRO, opened the validation workshop by welcoming the attendees. He outlined the workshop's primary objective and noted that the event would serve as a platform to disseminate these new models and tools to stakeholders.



Eng. Teshome underlined that water resource modeling tools and knowledge products are critical for effective water resources planning and management, thus ENTRO has developed and archived various models, toolkits and databases, including Riverware, RIBASIM, HEC-ResSim, SWAT and other models. However, challenges remain in data accessibility, model accuracy and knowledge sharing, limiting the full potential use of these models in water resources planning and management related activities.

The Acting ED emphasized that the robust and user-friendly tools are designed to meet the specific needs of Eastern Nile stakeholders. He stated they will significantly contribute to improved water resource planning, informed decision making, and sustainable development in the region. Following his remarks, Eng. Teshome invited the Sudanese ENSAPT member to give remarks.

Eng. Teshome Atnafie,
Acting Executive Director of ENTRO



Thus Saied Magzoub, representing the Sudan ENSAPT, thanked the Ethiopian government for hosting the important workshop. He acknowledged the hard work of the ENTRO team and experts in building tools that accurately model our region's water resources, including hydrology, hydraulics, and sediment transport. He stated, "these tools are not just scientific achievements; they are an instrument of cooperation, trust-building, and informed decision-making." Eng. Saied concluded by encouraging everyone to share their expertise to validate the models, ensuring they are technically correct, reflect local knowledge, and can be trusted for planning and discussions between our countries.



Eng. Saied Magzoub Sudan ENSAPT

Following the Sudan remarks, South Sudan ENSAPT Member, Richard Gama, on his remarks states that this project has taken 15 months to reach its current stage and has undergone multiple validation workshops which has incorporated expertise from various countries to achieve this progress.



Mr. Richard Gama South Sudan ENSAPT

Eng. Richard encourages all technical team members to collaborate closely with the consultant and share their insights to reach the final stage of the development. He said that "the final delivery will remain with us. While we have previously relied on existing water resource tools and models, this project aims to develop innovative tools and techniques to enhance water resource management in the basin." Finally, he appreciates everyone's efforts and encourages all to make the most of their time moving forward.

Finally, the welcoming remark was given by the ENSAPT Chair Dr. Zebene Lakew, by which he welcomed all participants to Addis Ababa and to the validation workshop on the development of the Eastern Nile water resource models and tools with the financial support of the World Bank.

The ENSAPT Chair states that "We have gathered not only to reflect on the recently developed models and tools but also to share the vital ideas and experiences that will shape the future of water resource management in our basin." He said that as technical experts in respective fields, insights are crucial in ensuring these tools which are not only scientifically robust but also practical and applicable for real-world challenges. Also, Dr. Zebene states that the interactive discussions, combined with the planned presentations and data activities, will be highly productive, which will minimize the challenges we face and better harness the potential of our shared water resources for the benefit of all our people.

In conclusion, Dr. Zebene extended his gratitude to the World Bank, the workshop organizers, and all participants. He wished everyone fruitful deliberation and with that, officially opened the meeting.



Dr. Zebene Lakew ENSAPT Chair



The workshop is expected to deliver the following outputs:

- Validated methodologies and outputs for the six work packages.
- Feedback and recommendations for improving the models, tools, and platforms.
- Enhanced stakeholder awareness of the Eastern Nile water resources models and tools.



STORY OF INTERNS FROM THE 9TH BATCH

9TH BATCH OF THE ENTRO INTERNSHIP PROGRAM: JULY 1, 2024 - SEPTEMBER 30, 2024.

The 2024 Flood Season Internship Program, known as the 9th NCCR batch, is part of the EN Flood Forecasting and Early Warning System (EN-FFEWS). This program is designed around several key activities aimed at enhancing flood risk mitigation strategies in Ethiopia, South Sudan, and Sudan.

Running from July 1 to September 30, 2024, the internship will encompass comprehensive training sessions, flood forecasting techniques, flood impact assessments, and evaluations of forecast model performance. Participants will also engage in practical field visits to flood-prone areas, providing them with firsthand experience of the challenges faced in these regions.

The training curriculum includes NBI Induction Courses, as well as instruction on the Mike Operation model and the Mike Zero package. These tools will enable interns to generate 10-day forecasts for the EN basin and effectively disseminate this critical information to relevant stakeholders.

This internship program not only aims to equip participants with essential skills but also to foster collaboration and knowledge sharing among countries affected by flooding, ultimately contributing to improved flood management and resilience in the region.



Let's take a moment to hear from our interns as they share their experiences during their time at ENTRO

My name is Hussein Musa Adam Hamed. I have M.Sc. In Hydraulics - B.Sc. Honours in Civil Engineering (Hydraulics), currently am working as a Modeler, Water Resources Management / Hydrologist, Ministry of Irrigation and Water Resources, Sudan.



The 9th batch of the ENTRO Internship Program has positively influenced my life in a way I never anticipated. From my observations, ENTRO promotes a highly collaborative atmosphere that values teamwork and open communication. I have already recommended the ENTRO Internship Program to my colleagues and several young professionals.

The way ENTRO's team treated us from the very first day of the internship until the end was remarkable. Words cannot express our appreciation for their unwavering support.

Through collaboration, cooperation, and sharing experiences, we interns felt like we were part of a family, and I believe this bond will endure for a long time.

My name is Luki Nelson Lupai, a holder of BSc of Computer Science from University of Juba, working with South Sudan Ministry of Water Resources and Irrigation, Directorate of Hydrology and Survey, department of Water information Management System (WIMS).

As a member of the 9th batch of the ENTRO Internship Program, I significantly improved my skills and experience, which shaped my career and boosted my confidence. I gained practical experience in hydrology through data collection and analysis, participated in field visits to flood-prone areas, and learned to analyze hydrological data and forecasting models. I developed skills in flood risk assessment and community engagement regarding flood preparedness. Overall, I enhanced my understanding of the hydrological cycle and am better equipped to create effective emergency response plans for flooding impacts on communities.

“ENTRO has a culture of inclusive and supportive, goal oriented, clear expectations, collaboration in terms of teamwork and motivation with all the staffs also has Positive culture, career advancement, supportive and comprehensive learning opportunities . . .”



ENTRO has a culture of inclusive and supportive, goal oriented, clear expectations, collaboration in terms of teamwork and motivation with all the staffs also has Positive culture, career advancement, supportive and comprehensive learning opportunities, I strongly recommend and encourages others interns to participate and get train to gain more experience, skills, techniques and knowledge in the field of water resources management.

“The ENTRO Internship Program has positively influenced my life in a way I never anticipated.”

During my three-month internship, I developed various relationships with colleagues from Eastern Nile countries. We shared learning experiences that strengthened teamwork, collaboration, problem-solving, creativity, and cultural exchange. The program fosters cross-cultural teamwork, offers hands-on training with real-time data, and supports vulnerable communities in disaster risk reduction and sustainable water management. Additionally, ENTRO is recognized for its innovation, career development opportunities, and commitment to diversity and inclusion.

My name is Beir Alemayehu Bekele, and I hold a BSc degree in civil engineering from Addis Ababa University/AAIT. (Senior Hydrologist) I had the privilege of being part of the 9th ENTRO Internship Program, an experience that has profoundly transformed my professional journey, particularly in the realm of flood forecasting.

Throughout the internship, I developed proficiency in using Mike Zero to model both hydrological and hydrodynamic systems, which has significantly improved my ability to assess flood-affected areas with precision. I also acquired valuable skills in downloading and applying hydrological data to real-world scenarios.

One of the most rewarding aspects of this internship was the opportunity to thrive in high-pressure environments, which enhanced my multitasking abilities and enabled me to produce detailed analytical reports. My exposure to advanced tools such as Mike Workbench and the WRF model has further enriched my technical expertise.

“I highly recommend young professionals in water resources to apply for the ENTRO Internship Program. I applied over three times before I was finally accepted, and it was worth the effort. This internship will have a significant and positive effect on your life and career. I promise you won’t regret it!”

During my time in the program, I found immense fulfillment in actively contributing to flood management initiatives. One of my primary responsibilities was producing a 10-day Flood Forecast Report, which was instrumental in alerting communities to imminent risks and ultimately helping to save lives. I also monitored daily flood events by staying informed through news media and maintaining direct communication with local administrative personnel in flood-prone areas.



Most importantly, this program has provided me with a clear trajectory for my future career in water resources and flood management. It not only honed my technical skills but also deepened my passion for leveraging these tools to tackle urgent water-related challenges.

I am immensely grateful for the guidance this experience has offered, and I am excited about the future it has helped me envision. I wholeheartedly encourage young professionals in the field of water resources to apply for the ENTRO Internship Program. I applied three times before finally being accepted, and I can confidently say that the effort was well worth it. This internship has the potential to make a significant and positive impact on your life and career, and I assure you; you will not regret it!

Staff News

Farewell



Hatim Nuh, ENTRO's specialist in GIS and remote sensing, has been part of our team from October 23, 2024, to May 30 2025.

His contributions have involved geodatabase management, spatial analysis and modeling, mapping, and the automation of data collection.

ENTRO expresses its gratitude for your dedication and hard work and extends its best wishes for your future endeavors.

ENTRO Core Values Are **RIGHT**:

Regional Orientation, Focus on People and Environment

We are committed to regional cooperation in all our activities and relationships among ourselves and with our partners. We are committed to working for the benefit of the people and the environment of the EN countries.

Initiatives, Dynamism and Creativity As a team and as individuals, we take initiative and embrace new ideas for the enhancement of both our performance and our working environment. We strive for creativity to set an example and place for others.

Gender Balance, Equity and Respect Diversity

In all our work and interactions, we give equal opportunities for both genders and seek gender balance. We also do not discriminate any individuals because of their beliefs or physical appearance. We emphasize mutual respect for individuals, recognition of their contributions, and their rights to equity in benefit sharing.

Honesty, Excellence and professionalism

We perform all our duties in a spirit of trust, transparency and honesty.

We are committed to excellence and professionalism in all our work.

We do not compromise on quality and accountability.

Teamwork, participation and partnership
We choose to work in teams with our colleagues at ENTRO and with ENTRO'S owners and partners. We also seek to expand and intensify participation of non-governmental stakeholders, particularly from EN civil society and private sector.

We believe through participation and partnership we would achieve synergies otherwise lost. We hold ourselves individually and collectively accountable in achieving our commonly shared objectives.



ENTRO VISION AND MISSION

Vision

“A credible, adaptive regional institution fostering sustainable transboundary cooperation.”

Mission

“We Work to realize shared benefits of cooperative Water Resources Development and Management in the Eastern Nile.”



ONE RIVER ONE PEOPLE ONE VISION



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