

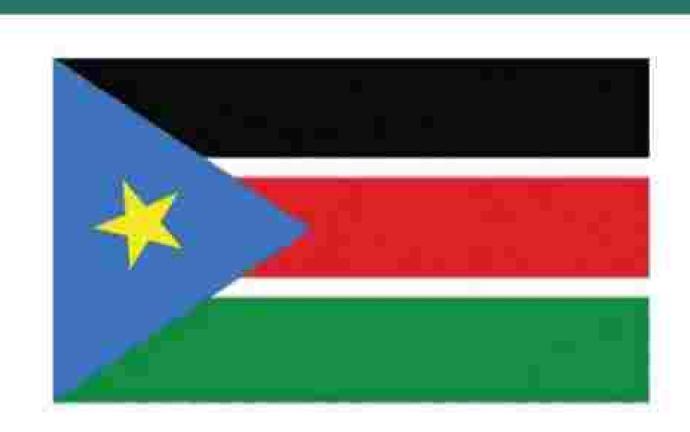
EASTERN NILE TECHNICAL REGIONAL OFFICE



ONE RIVER ONE PEOPLE ONE VISION









P. O. Box 27173-1000 Addis Ababa, Ethiopia Tel: +251 116 461130

Website http://entro.nilebasin.org E-MAIL: entro@nilebasin.org

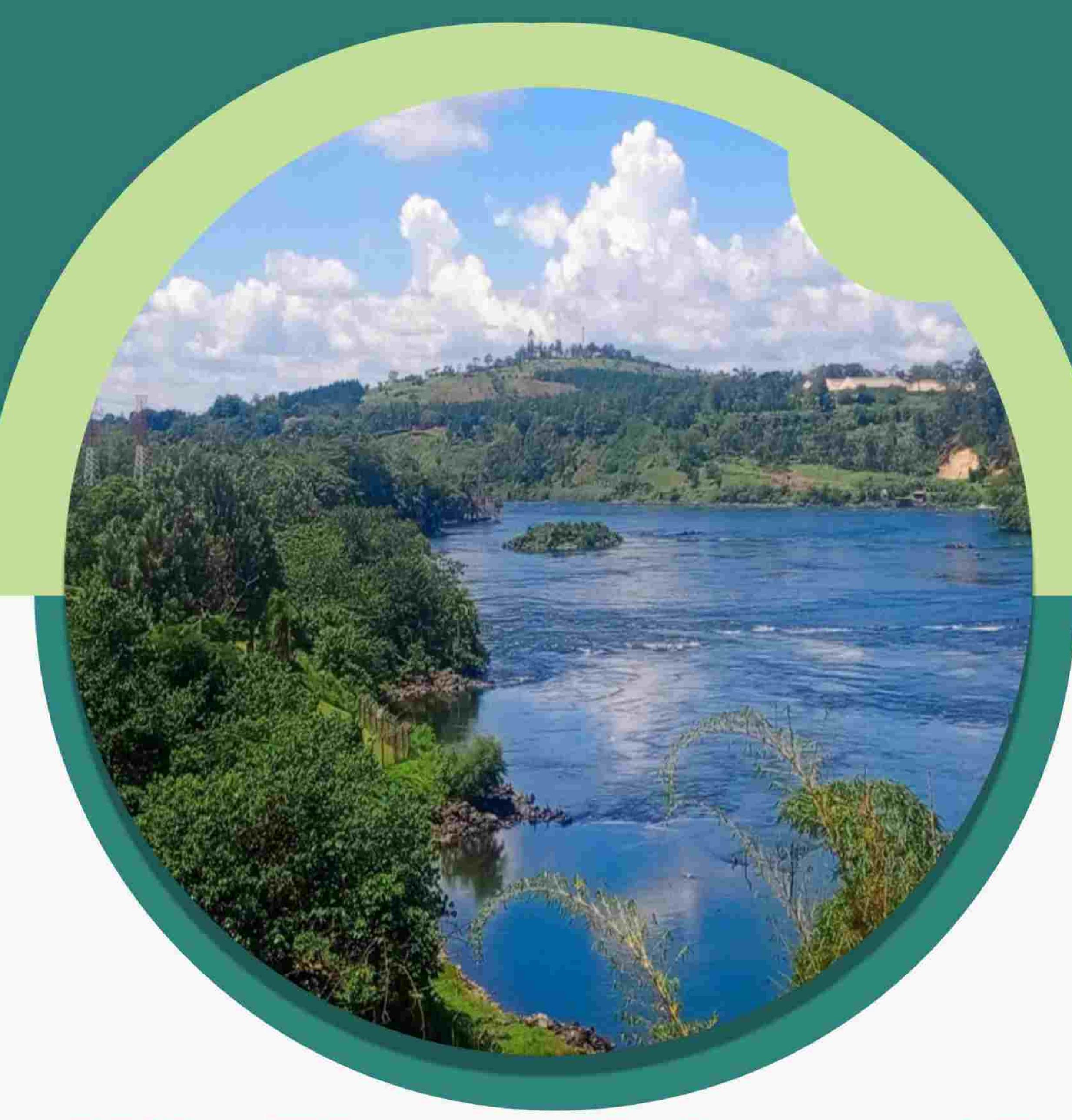


Eastern Nile Technical Regional Office-ENTRO



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Nile Flow - Volume 15









July – December 2023

Disclaimer: the views expressed in this newsletter do not necessarily represent those of NBI, its members states, or development partners.

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Editorial Committee

Assefa Gudina Rebecca Tayachew

Eastern Nile Technical Regional Office (ENTRO)

Dessie Road, In front of Ararat Hotel

P. o. Box:27173-1000

Addis Ababa, Ethiopia

Tel: +251 116 461130

Fax: +251 11 6 459407

WEBSITE: http://entro.nilebasin.org/, ikp.nilebasin.org

E-MAI: entro@nilebasin.org





About the Newsletter

ENTRO produces a Monthly magazine called Nile Flow. We print free copies per issue, which is sent to our governance members, line ministries 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!

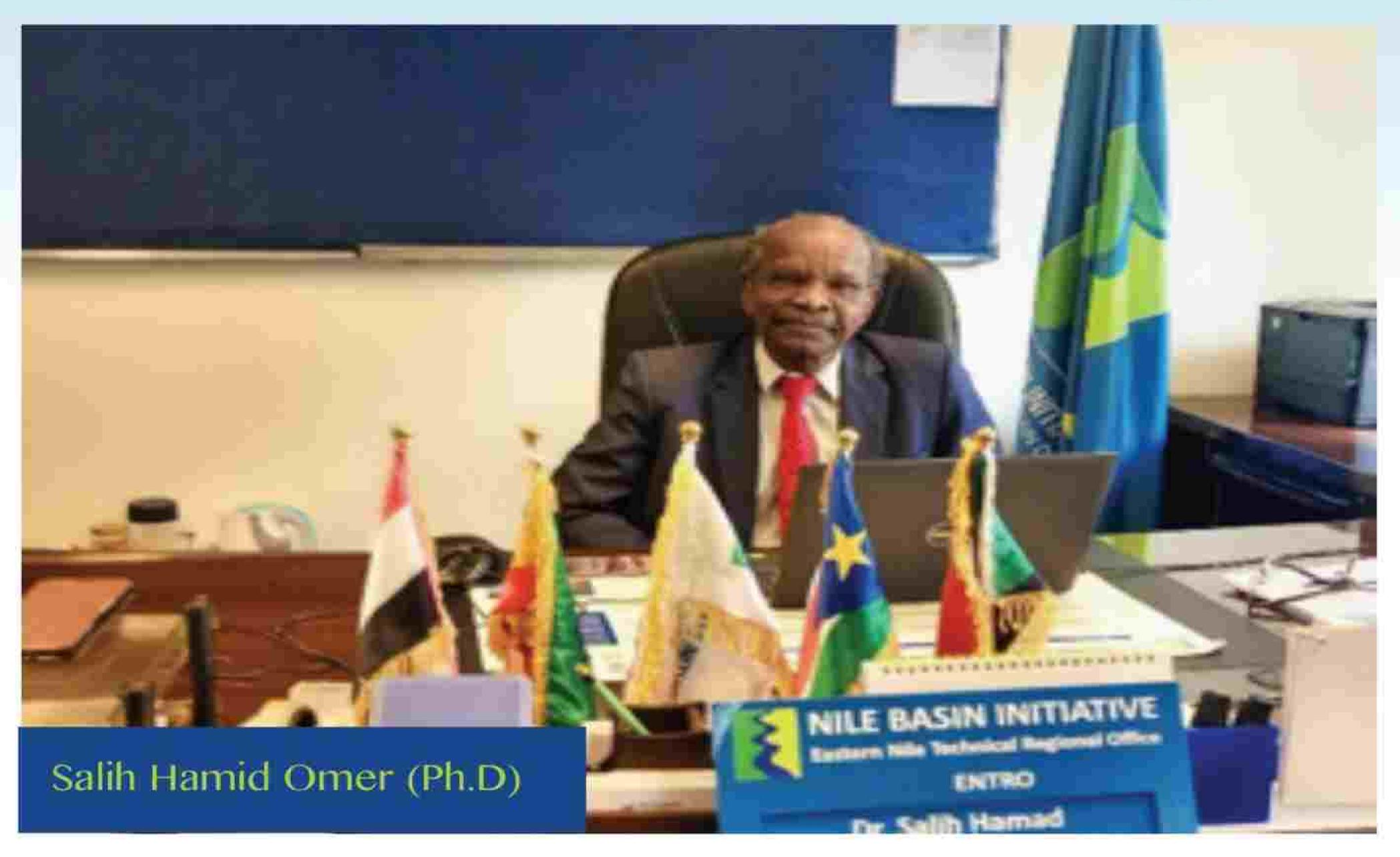
Flow -

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.



Executive Director's Message



Eastern Nile Technical Regional Office (ENTRO) has been established by the Eastern Nile Council of Ministers (ENCOM) in June 2002 in order 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 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.

Salih Hamid Omer (Ph. D)
ENTRO Executive Director.





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 in order 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).

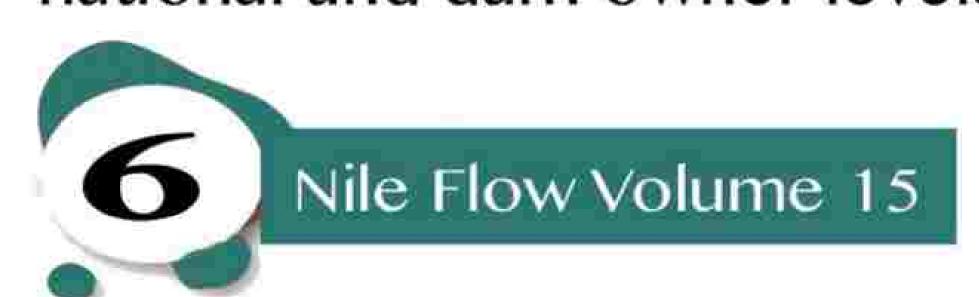


ENTRO is governed by ENCOM as the highest decision-making body, assisted by the Eastern Nile Subsidiary Action Team (ENSAPT), composed of three senior technical officials from each Eastern Nile (EN) member country.

Ongoing projects Dam Safety Management

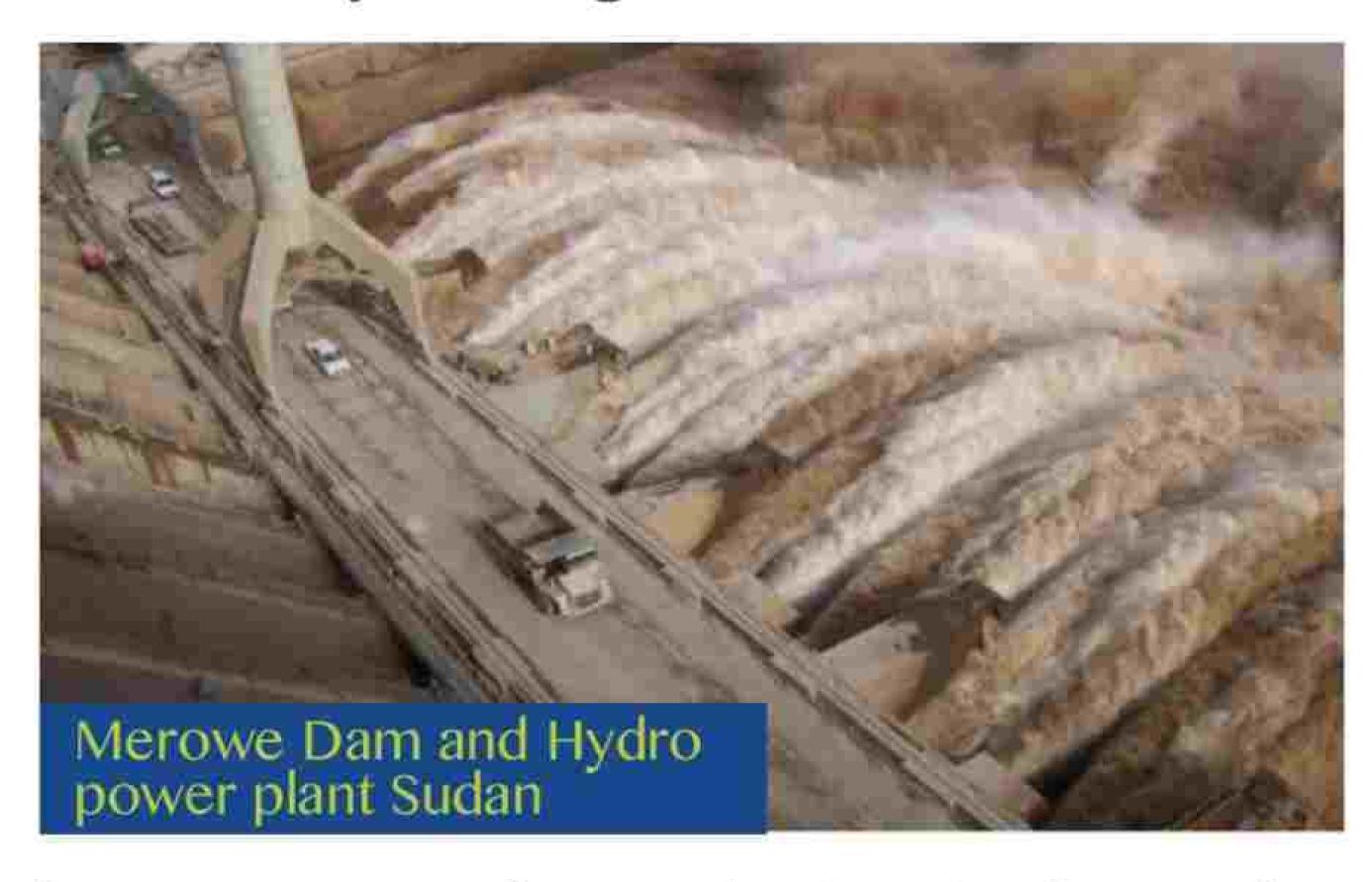
Many of existing dams in the EN sub basin, particularly small dams, were built with limited technical investigations, inadequate design, and poor construction quality. These issues have been compounded by limited investments in operations and maintenance, as the public sector dams are mostly financed through Government transfers, which are often insufficient and neglected. As a result, many dams, particularly medium and small dams are deteriorating, posing a substantial risk to human safety and economic security, with structural and non-structural safety often falling below acceptable international standards. The deterioration of these dams, coupled with increased risk and uncertainty resulting from hydro-logical variability due to climate change, and uncoordinated operation in the sub basin, has placed many reservoirs at risk.

Recognizing this, key issues and actions are identified to develop and implement a dam safety regulatory framework and dam safety management plans at the EN region, national and dam owner levels.



ENTRO Dam Safety previous studies have produced the following important reports:

- Road map for Preparation of a Regional Dam Safety Framework
- Reference Dam Safety Guidelines for EN
- Dam Safety Framework for the EN
- Small Dams Safety Guidelines
- Dam Safety Training Module



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 trans boundary 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.

- (i) Establishment of a Regional Dam Safety Training Center.
- (ii) Capacity Building including strengthening of National Dam Safety Units.

The implementation of these sub-components is going smooth.

Flood Forecasting and Early Warning and Establishing Drought Monitoring and Forecasting System

The overall objective of Flood and Drought Risk Mitigation project is to improve enhanced services for preparedness against flood and drought risks through provisions of flood and drought forecasting. This work will directly contribute to improved national capacities to accommodate the impact of climate variability, which is the core element of climate-resilient water resources management.



The specific objective of the Flood Risk Mitigation sub-project is the enhancement of riverine Flood Forecast and Early Warning (FFEW) system for the EN region and the National Flood Forecasting Centers of the EN countries and make available the forecast and early warning information for their further action.



For Drought Risk Mitigation, the objective is to develop and operationalize basin-wide seasonal drought forecasting/monitoring and make available the forecast and early warning information to relevant stakeholders. Salient features of the Flood and Drought Risk Mitigation project are given in subsequent sections.

Flood Risk Mitigation sub-project includes three Work Packages:

Work Package 1 - Surveying and Data Collection (topographic, infrastructure, socio-economic) works conducted regarding including:

- Collect terrain datasets of flood prone areas,
- Compile historical hydro-meteorological datasets,
- Determine key characteristics of flood prone communities, and

Work Package 2 - Enhancement of the Eastern Nile Flood Forecasting and Early Warning System and Flood Risk Mapping (consultant DHI). The project will complete in July 2024.

Enhancement of the EN-FFEWS has been made. Presently flood hazard assessment and flood extent mapping is being produced with later activities on flood vulnerability assessment, flood risk assessment, and flood

impact assessment. Capacity building at national and regional level, and validation and dissemination workshop (11-13 February 2024) have been planned.

Work Package Establishing Flood Community Awareness and Preparedness:

Now at contract awarding stage and will include:

- Develop flood management strategies for flood prone communities,
- Inception / scoping workshop,
- Develop flood preparedness implementation plan,
- Develop local interventions for flood protection,
- Flood preparedness capacity building of national institutions, and
- Validation and dissemination workshop.

Drought Risk Mitigation project

Drought Monitoring and Early Warning System aimed at detecting the onset of drought conditions can facilitate timely and effective responses that enable government, organization, farming, communities pastoral, urban individual to respond rapidly and effectively with example:

Incoming Projects

- Pastoral stocking feed, gov early buy livestock at fair price, positioning water, Rain fed - drought resistance seed; on farm water conservation, government lend cash >to farmers,
- Government early procurement of food items (nationwide), and
- Reservoir operators working out the details of water rationing and saving mechanisms. Drought Risk Mitigation project has the following main activities in which the consultant has been on board since Nov 2023 and close in May 2025:
- Conducting drought forecast need and gap assessment and developing TOR for firm consultancy service on drought forecast upscaling study (completed)
- Firm consultancy works on drought forecast up scaling Study:
- Developing enhanced drought monitoring, forecasting and early alert operationalize for the Nile basin,
- Improving stakeholder awareness and preparedness for drought risk,
- Packaging of information service for drought forecast and early warning, and
- Developing capacity on drought forecasting at the national forecasting centers.

Incoming Projects

ENTRO has signed a financial agreement with The first phase will be focused on the WB/IDA to implement part of the Regional Climate Resilient Program. The Program is regional multi-phase engagement (Series of Projects, SOP) with the higher-level aim of strengthening the resilience of populations to climate-related shocks in Eastern and Southern Africa.

The Program Development Objective is to strengthen the resilience of populations to shocks in Eastern and climate-related Southern Africa. The overall Program focuses catalytic medium to large scale investments to reduce people exposure to climate shocks, with a focus on high return storage and protective water infrastructure and safety nets.

strengthening systems for the proper design, implementation, and O&M of these investments for climate resilience, on their readiness increasing implementation, on improving preparedness to manage climate risks, and on expanding the scope for adaptive safety nets to protect the most vulnerable. Infrastructure works will only be financed in South Sudan and Mozambique.

The Program is structured around five components. Activities to be proposed by NBI centers need to be aligned to these components. However, not all components need to be covered (i.e., it is OK for activities to only fall under components 1 and 2).





COMPONENT 1. Risk Management and Climate Financing

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

COMPONENT 2. Climate Resilience Infrastructure and Asset Management

- 2.1. Enhancing institutional capacity for long term climate risk management
- 2.2. Improving governance of existing climate resilience assets
- 2.2. Closing the climate resilient infrastructure gap

COMPONENT 3. Adaptive Climate Services for Resilient Communities

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

COMPONENT 4. Project Management

The project activities will be implemented by both ENTRO and NELSAP-CU with ENTRO being the Lead implementing entity. The project will be implemented in 5 years with a total cost of 4.0 million USD.

Internship and Young Professionals:

ENTRO has taken the initiative to establish an internship project as part of its core activities and successfully implemented in the last 11 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 modifythe 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.



NEWS & EVENTS

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.

Planned activities include: ENTRO Internship and Young Professionals (I&YPs) Project evaluation and preparation of future implementation plan; and hosting 12 batches of internship program; conduct 2022 Flood Forecast and Early Warning Activity by issue the flood early warning bulletin on daily basis during the flood season and organize training /field visits/ dissemination workshops/ conferences/ to support the interns' project.

So far ENTRO has implemented the 7th batch according to the project implementation

"The 37th Eastern Nile Subsidiary Action Program Team (ENSAPT) Meeting.



The 37th Eastern Nile Subsidiary Action Program Team (ENSAPT) Meeting has been conducted in Bishoftu, Ethiopia. This significant Board meeting was conducted from December 21st to December 22nd, 2023. The primary objective of this governance meeting is to address several crucial matters, including Performance technical and financial, and Audit report in addition to ENTRO Human Resources issues for the period from July 2023 to December 2023.

This meeting serves as a platform for the Governance to discuss and deliberate on these important issues, ensuring effective

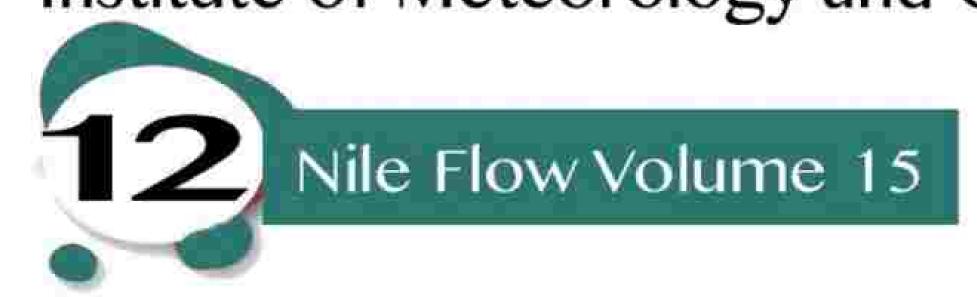


collaboration and decision-making for the benefit of the Eastern Nile Region. ENSAPT will engage in comprehensive discussions, sharing insights and expertise to drive progress and enhance the overall performance of the Eastern Nile Subsidiary Program.

Delegates of Institute of Meteorology & Climate Research IMK-IFU & ICPAC Visit ENTRO



The purpose of this endeavor is to foster a deeper understanding of the delegates' institutions. In addition to German Institute from reperesentative of particpants IGAD/ICPAC, the Ethiopian Center of Irrigation and Water Resources (CIWR), and the Hydraulics Research Center (HRC) in Sudan, Ethiopian Institute of Water Resource (EIWR), Addis Ababa University (AAU), University of Augsburg are also among the delegates. Following that the Executive Director of ENTRO Dr. Salih Hamad opened the meeting with a welcome remark followed by a Prof. Harald Kunstmann the director of the Institute of Meteorology and Climate



Research IMK-IFU, Karlsruhe Institute of Technology, Campus Alpin, Germany.



He expresses interest in exploring a stronger connection and collaboration between various parties, including Sudan, Ethiopia, and Germany. The focus is on developing more flexible tools instead of relying computational on architecture expertise. Prof. Dr. Harald appreciates the opportunity to be present and wants to learn more about ENTRO and Collaboration connections. extended organizations other to participating in the meeting such as the CIWR, ICPAC and the HRC in Sudan, and he explained that they are open to involving more players and actors in improving water management.

Finally, he emphasizes the importance of collective effort, goodwill, networking, and sharing expertise in this complex endeavor.



After the remarks of Prof. Dr. Harald Kunstmann, Dr. Salih Hamad ENTRO ED took the stage to deliver a captivating presentation on the overarching purpose, projects, and structure of ENTRO. The audience was provided with a comprehensive understanding of the organization's goals and objectives. Following the presentation, an engaging question and answer session allowed for further exploration and clarification.

Finally, two staff from two offices has been assigned as contact persons to follow up on their collaboration efforts.

RMSI visitation to ENTRO.



The Eastern Nile Technical Regional Office (ENTRO) based in Addis Ababa, Ethiopia has selected RMSI Private Limited, India to implement the project for "Development of a Nile Basin Wide Drought Early Warning System – Nile DEWS" since November 2023 over 19 months. As part of the consultancy work, the Consultant Team Leader, Dr. Pratap Singh, and Dr. Uttam Singh made visit to conduct consultation regarding Drought Early Warning System at ENTRO and atvarious institutes in Ethiopia over the period 12-15 December 2023.

RSMI made a visit in Ethiopia in December 2023 at six institutions namely the Ministry of Agriculture, Ethiopia Institute of Agriculture Research, Ministry of Water and Energy, Ethiopia Institute of Meteorology, National Disaster and Risk Management Commission and World Meteorological Organization Regional Office for Africa to assess DEWS uses and service they get / produce.



Meeting on Regional Climate Resilience Program (RCRP) for Eastern and Southern Africa."



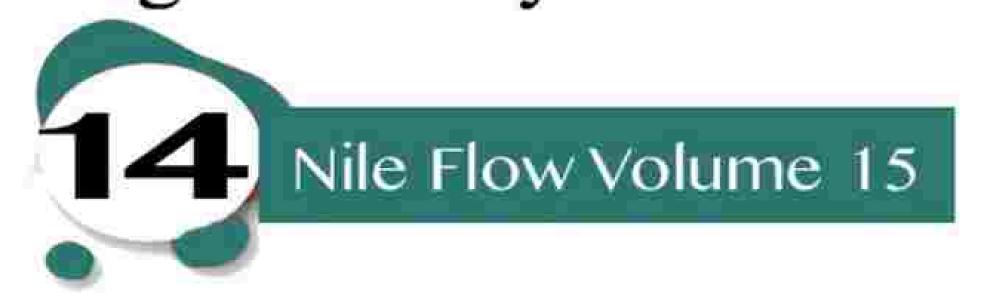
The WORLD Bank Task Team Leader for Regional Climate resilience Program for Eastern and Southern Africa Dr. Laura Bonzanigo Senior Water Specialist and Ms. Azeb Mersha Water Resource Specialist had a meeting on September 19, 2023, with ENTRO Technical Group and NELSAP-CU, on the Project related Activities.

During the meeting, the following main points discussed: Review the update of progress of the project, future regularProject follow up related programs, lead technical Specialist recruitment processes related status and the status of TOR of

project activities



The Component of the project is implemented in Nile Basin Countries (Ethiopia, Sudan, South Suda and Uganda). ENTRO Lead the implementation of the Project with cooperation of NELSAP-CU. The overall project Program focuses on catalytic medium to large scale investments to reduce people's exposure to climate shocks, with a focus on high return storage and protective water infrastructure and safety nets. The Program initially focuses on reducing flood risks in South Sudan.

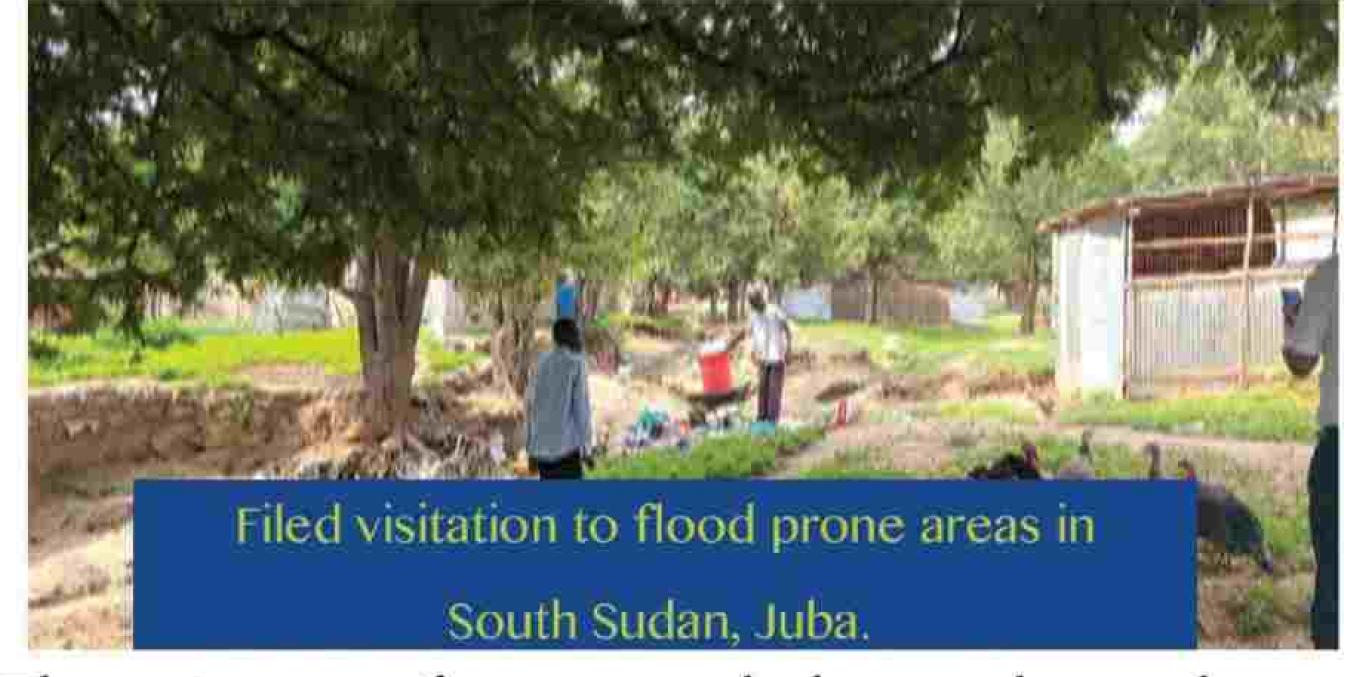


"Consultation and Validation Workshop on WP1 Surveying and Data Collection for EN-FFEWS"



ENTRO conducted consultation and validation workshop on WP1 Surveying and Data Collection for EN-FFEWS based on the WP1 Consultant, CMC, MEEO and SEWAR delivered data and reports 9-11 August 2023 at Juba South Sudan. The last one-day participants visited flood prone areas in Juba city. Reviewers were from Technical Working Group (EN-F&D-TWG), ENTRO, NELSAP-CU, NBD, and the WB experts. The consultant received useful comments and included that in their final deliver.

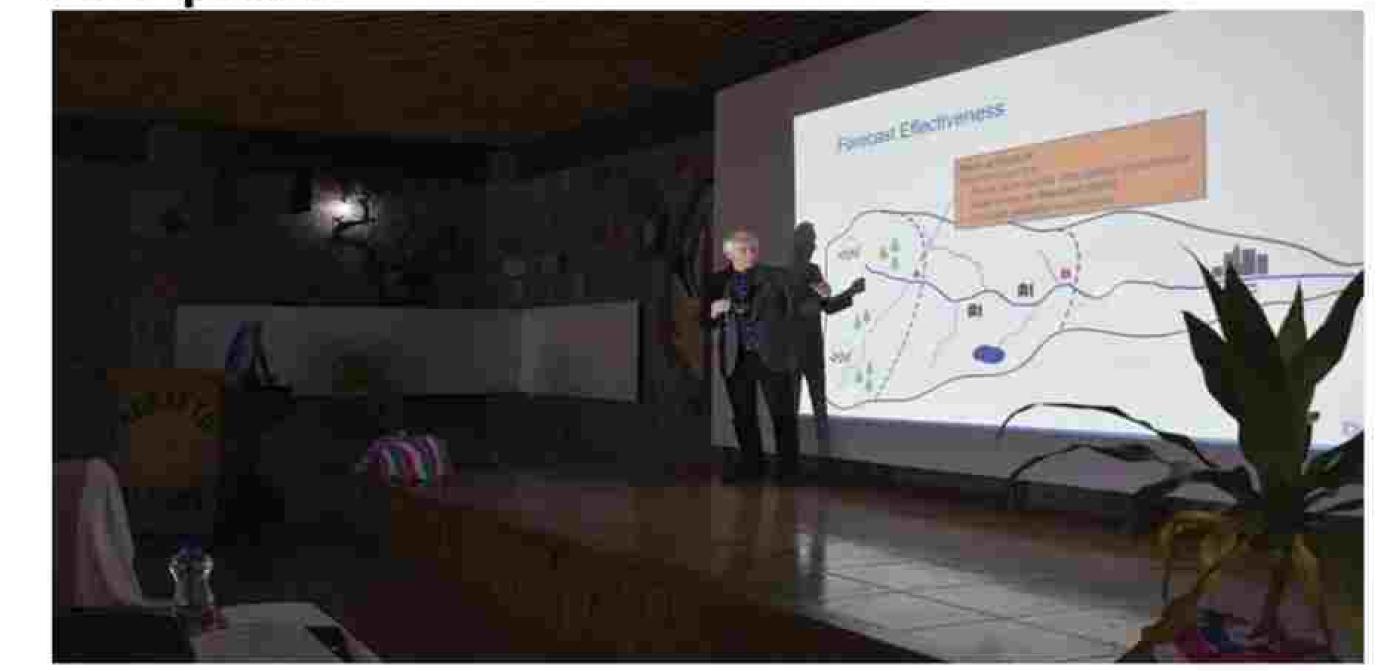
Inspection Workshop on work package
2- Enhancement of the Eastern Nile
Flood Forecasting and Early Warning
(EN-FFEWS) and Flood Risk Mapping
has been conducted



The Inspection workshop has been conducted in Bishoftu Ethiopia, from 24th to 26th September 2023 with a total of 30 Participant.



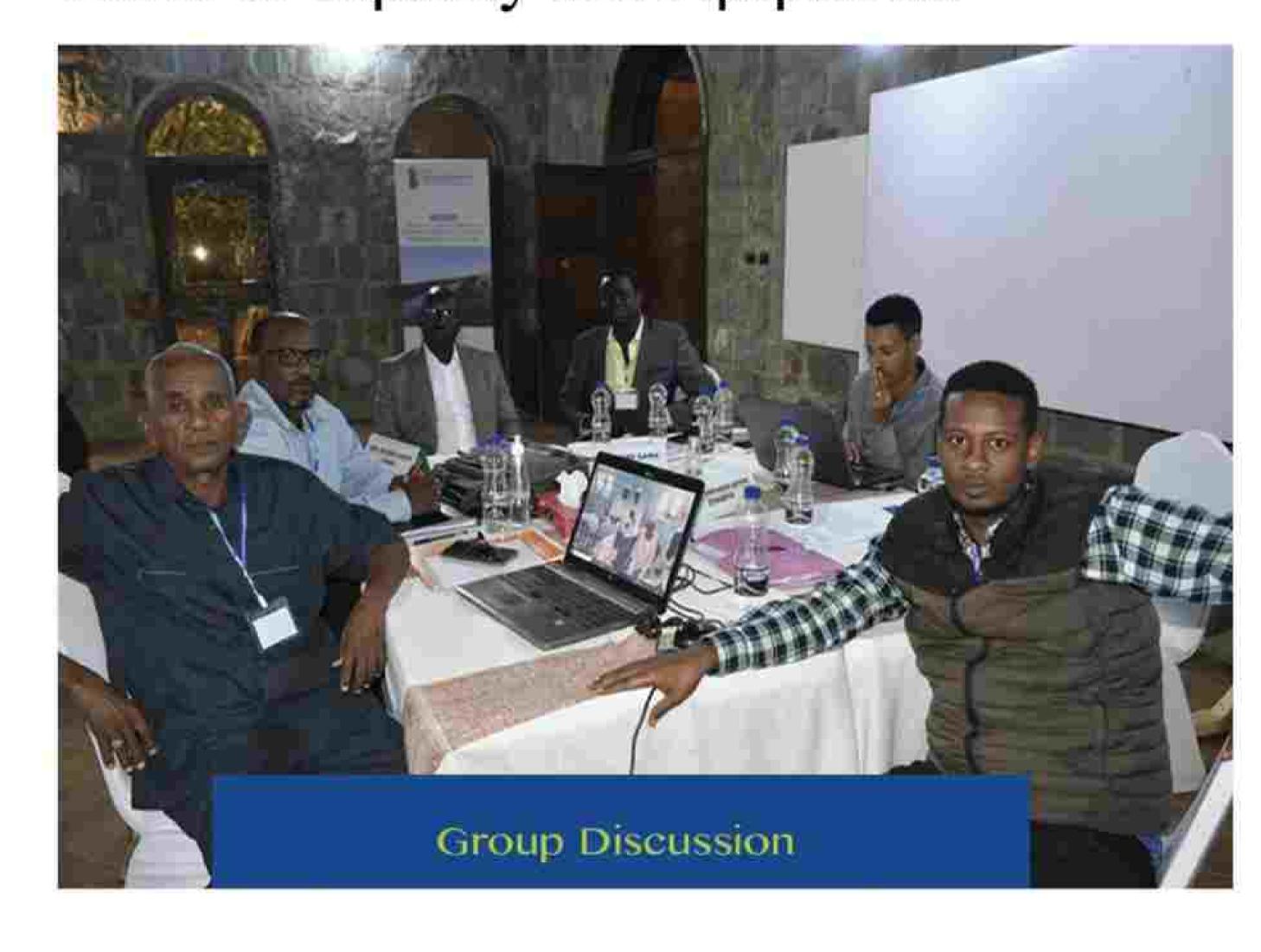
Participant. The specific objectives of Inspection Workshop on work package 2-Enhancement of the Eastern Nile Flood Forecasting and Early Warning (EN-FFEWS) and Flood Risk Mapping workshop is to introduce the project to the EN countries for their continuous engagement and getting their support, to collect a preliminary information on the selected flood prone areas in the EN countries from the EN- experts, to collect the improvement areas of the existing EN-FFEW technical issues and model products, to discuss on the riverine flood vulnerability and risks, and to improve early warning messages and dissemination tools; and finally get feedbacks on the updated detailed workplan.





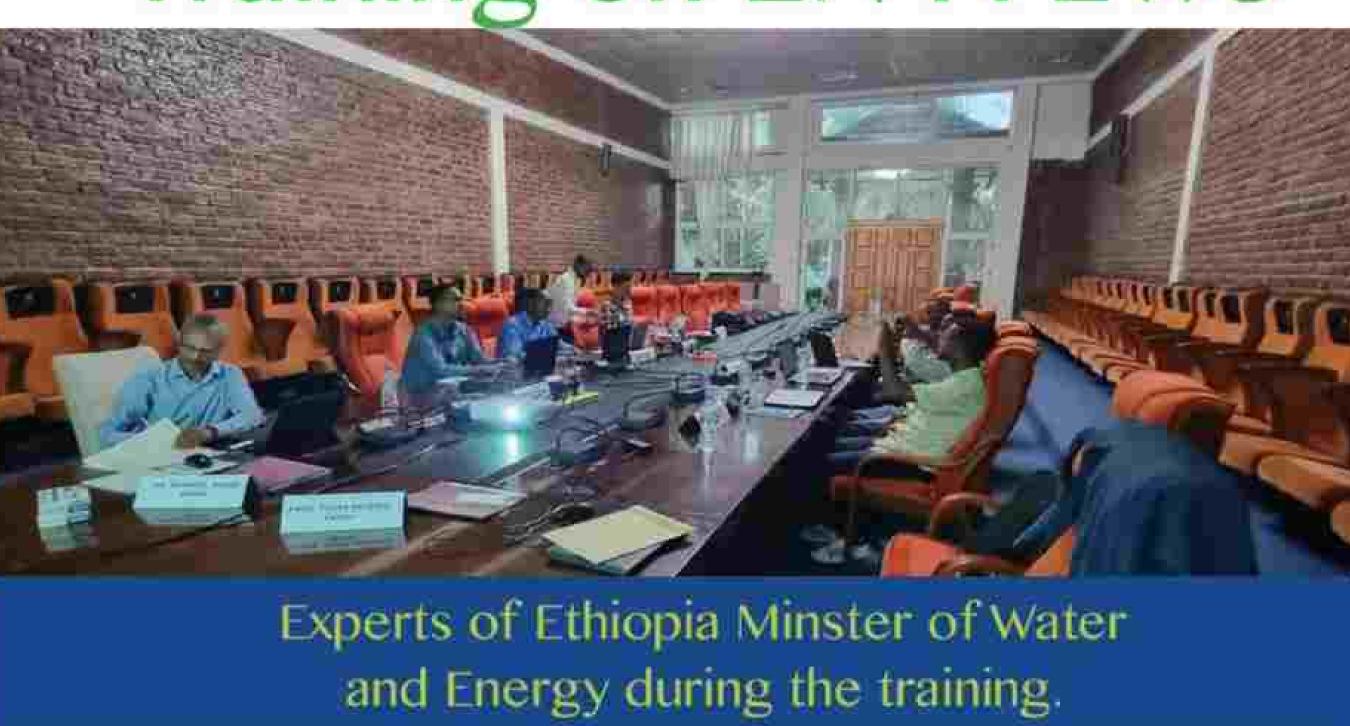


The emphasis of the EN-FPEW is on enhancing regional collaboration and national capacity in flood risk management, including flood mitigation, flood forecasting and early warning, as well as flood emergency preparedness and response. The FPEW has created a regional Flood Forecast and Early Warning System(FFEWS) and has strengthened national offices both in terms of capacity and equipment.



Enhancement of the EN-FFEWS has been made. and application with exercise Presently flood hazard assessment and flood • FFEWS extent mapping is being produced with later activities on flood vulnerability assessment, flood risk assessment, and flood impact assessment. Capacity building at national and regional level, and validation and dissemination workshop (11-13 February 2024) have been planned. The project will be completed in July 2024.

National Capacity Building Training on EN-FFEWS



National Capacity Building Training on EN-FFEWS was given for 7 water resources experts of Ethiopia Minster of Water and Energy from 29 November 2023 - 1 December 2023 at Hawassa, Ethiopia.

Topic of Practical Training were:

- Rainfall forecast WRF.
- Flood modelling NAM Model theory and application with exercise
- Hydraulic Modelling Mike II theory
- Mike operation, Mike-Workbench

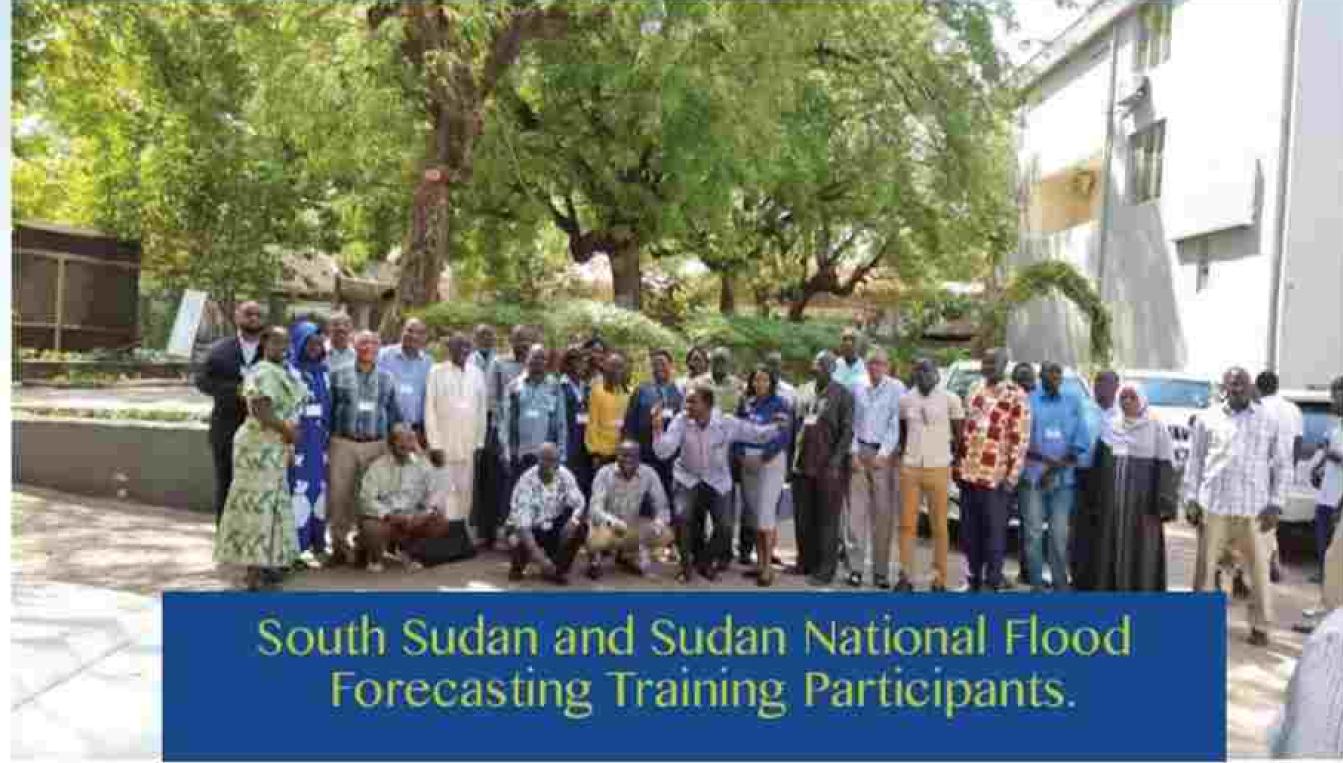
Discussion on experience sharing and challenges and identification of further improvement areas.



Awarding certificate after the Training



Capacity Building Training for the South Sudan and Sudan National Flood Forecasting Center Staffs and Community Level Awareness





The capacity Building Training for the two Countries has been conducted in Coordination with NBD; from 16-20 January 2024; Juba, South Sudan.

The objectives of the training were (a) to enhance the capacity of the South Sudan Flood and Sudan Forecasting Center staff at headquarters and branch offices on the EN-FFEWS (& experts from each count, (b) to increase awareness on FFEW and preparedness levels to building flood resilient communities to communities affected institutionsfrom Akobo, Pibor, Nasir and Malakal towns as well as Juba in collaboration with NBD. Training to the FFC experts and Flood managers

Community leaders from Sudan were conducted. In total 34 people participated with 10 female participantsry)

The 6th NCCR Internship Batch "EN Flood Forecasting and Early Warning System"



During the sixth batch of the NCCR Internship weather numerical forecasting model (WRF Program, three interns from three Eastern Nile model) for rainfall forecasting and hydrologic, countries - Ethiopia, South Sudan, and Sudan - hydraulic and Mike operation models (Mike participated. During their stay at ENTRO they models). This started with a background conduct study on "EN Flood Forecasting and Early Warning System". The main objective is to enhance regional collaboration and improve national capacity in mitigation, forecasting, early warning, emergency preparedness, and response to floods in the EN basin countries. ENTRO provides a the EN basins, 1-month training and capacity building on

introduction on WRF modeling processes, Mike Zero system, how to produce 3-days lead time rainfall forecasts for the EN basin and consider the patterns of precipitation that could lead to flooding for Lake Tana, Blue Nile, BAS, & TSA in



and prepare daily flood forecast bulletin for dissemination to users: decision-makers, other stakeholders, and regional officials. The main goal for this survey is to improve the FFEWS within the Eastern Nile Countries to provide clear standards and a road map for improving FFEWS' effectiveness, and to improve coordination between institutions responsible for flood forecasting and those responsible for communicating warnings and community preparedness and awareness.



ENTRO has conducted a practical filed visit and training from 3-9 September 2023 for the 6th NCCR Internship batch working on the theme "2023 Flood Forecasting and Early warning (FFEW) in the Eastern Nile" in the republic Of South Sudan. During the event, interns were engaged in assessing ENTRO's FFEWS applicability in the Baro Akobo Sobat (BAS) sub -basin, trained on how to conduct stakeholder engagement, data collection and field campaign in relation to flood management, able to interact with field experts working on flood management sector (the ministry of water and irrigation,



Ministry of Humanitarian Affairs and Disaster Metrology Management, department, UNCHR) and community Multiple presentations, leaders. discussions, filed visits to flood prone areas have been conducted with active participation of interns, professional from organizations **ENTRO'S** sector Experts.



ENTRO Internship and Young Professional Alumni Participation on the 7th Nile Basin Development Forum



ENTRO's Internship and Young Professional Alumni have been participated in the 7th Nile Basin Development Forum (NBDF7) both on the Webinar held from 18th September to 13th October 2023 as well as in the

Physical Session held from 16-18th of October 2023 together with ENTRO staff. During the forum, the Alumni have got a chance to present their scientific papers in different sessions and themes through the webinar series. The opportunity allowed them to discuss issues related to the Nile Basin water resources with different participants of the event. Moreover, during the physical session held in Kampala Uganda, they were able to network with multiple stakeholders, policy makers, scientists, experts, and others who have active engagement in the Nile Basin's water management issues. The alumni Interns participated in this regional forum were from Egypt, Ethiopia, and Sudan.

Training Workshop on Gender issues for the Eastern Nile Countries



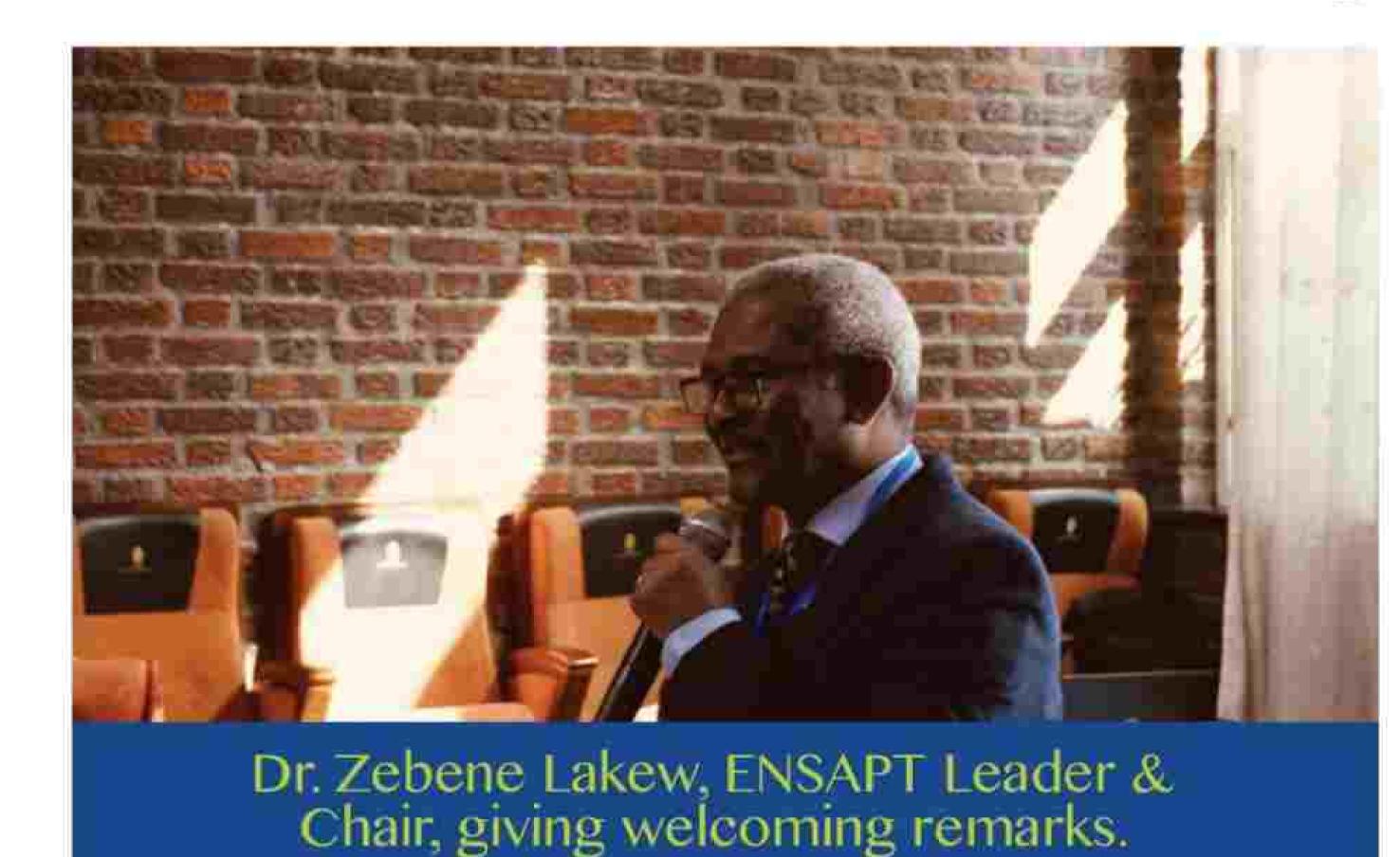
Building a Gender-Inclusive Future

Training Workshop on Gender Issues for the Eastern Nile Countries has been conducted in Hawassa, Ethiopia November 27th to November 28th, 2023, at Lewi Resort and Spa, in Hawassa. The workshop addresses the fundamental concepts of gender inequalities and gender mainstreaming, while introducing participants to essential tools such as gender analysis, gender budgeting, and gender audit.

The primary objective of this training workshop is to equip participants with practical skills that can be applied to their daily work in planned activities, projects, and programs. By incorporating gender considerations into their work, participants will contribute to fostering a more inclusive and equitable environment. The skills acquired during this workshop will be effectively implemented by all staff members within their respective departments, establishing gender mainstreaming as a standard practice.



Dr. Salih also appreciated and thanked the presence of the Mrs. Ellen Hagerman, the consultant, Mr. Assefa Gudina coordinating the training and Mrs. Selamawit for her contribution in terms of logistic arrangements communications that realized the training.



Following the welcoming statement by the ENTRO executive Director, the training workshop was officially opened by the remarks delivered by Dr. Zebene Lakew, ENSAPT Leader & Chair. Having welcomed

guests and participants, Dr. Zebene stressed the importance of the training as building capacity recommended the participants to actively participate and take away the knowledge and skills that help to enhance their capacities related gender mainstreaming their respective at institutions.



The training engaged ENTRO staff, ENSAPT member and two experts working on gender issues from each EN countries (Ethiopia, S. Sudan, and Sudan). Overall, 29 participants were attended the training of whom 34% (10) were women. The training was conducted by International Consultant Hagerman, the workshop valuable opportunities for knowledge exchange and capacity building.

By fostering a deeper understanding of gender issues and providing participants with the necessary tools, ENTRO empowers individuals to actively contribute to the achievement of gender equality in their respective contexts.

Promising future

1. Dam Safety Training Center establishment.

The Nile River is known to be the longest river (6,650 km) in the world, with a There are also more than 300 "small dams", catchment area of about 3 million sq.km. It largely earth embankment dams flows from south to north, discharging into supporting the Mediterranean Sea. The Basin is development. Most of these large and small

Many of existing dams in the EN sub basin, High Aswan, Kashim El Grba, Sennar, particularly small dams, were built 35 years Aswan, Jebel Awlia, Fincha Dam, etc. ago with limited technical investigations, Recently commissioned large dams include inadequate design, and poor construction the Tekeze, Merowe, Rumela, Burdana and quality. These issues have been compounded Ribb dams. In the NEL region, it is estimated by limited investments in operations and that more than 3000 small and large dams maintenance, as the public sector dams are are operational with some 130 dams mostly financed through Government planned to be constructed in the near transfers, which are often insufficient.

As a result, many dams, particularly medium growing number of dams, there is and small dams are deteriorating, posing a inadequate substantial risk to human safety and maintenance and operation of the dams. economic security, with structural and For instance, Tanzania has the largest non-structural safety often falling below number of dams of about 710, but it has acceptable international standards. The been reported that 52 dams have failed, deterioration of these dams, coupled with which is a large percentage of the total increased risk and uncertainty resulting from portfolio of dams (NELSAP CU, 2017). This hydrological variability due to climate indicates that the quality of operations, change, and uncoordinated operation in the maintenance, and safety of dams in the NEL sub basin, hasplaced many reservoirs at risk. region needs to be improved. It is At present, the Eastern Nile countries host estimated that more than 3500 small and more than 30 large dams with a combined large dams are operated in the Nile basin total storage

capacity of about 210 billion m3, of which someare intended for multi-purpose use. irrigation small composed of watersheds from 11 countries. dams are embankment type and served for more than 50 years, including Roseires, future (NELSAP CU, 2017). Despite the skilled countries.





Currently, there is no training center in There are universities and research Africa specialized in dam safety institutes in the Nile basin that offer management. The only training center engineering courses at different levels of known in the subjects of dams and education. hydropower is the Kafue Gorge Regional Training Centre, in Zambia, which was established in 1989 to provide short-course training in hydropower and related fields to electricity utilities in the Southern Africa Development Community (SADC) and Sub-Saharan regions. This training is, however, more focused on power systems hydromechanical aspects hydropower, and there is no course content specific to dams and dam safety. Most of the Nile Basin experts working in the dam and hydropower industry usually receive their dam safety training by traveling to Europe, North America, and Asia, or by participating in one-off (trainings arranged in the region by international partners, or through workshops and field organized by NBI.

In the last three years, ENTRO, in collaboration with International Centre for Hydropower (ICH), organized a training program for Nile basin countries. This generated savings of up to 50% on the cost of participant travel and accommodation. The other advantage was that the training provided an opportunity to bring in sector professionals from the region to serve as trainers.

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They fill an important but different need from continuing education intended for professionals. The working peculiar safety nature requires dam multidisciplinary expertise and demands extensive field and practical experience at site. Having a training center in the region is about increasing access to good training to Nile countries and indeed other countries on the continent. Developing a proper curriculum with core trainings can help to reduce the unit costs of training, improve quality and consistency, and allow for regional networking so that basin countries can have a common baseline, which will further help to strengthen regional coordination. The center will professionalize technical dam safety training, so it is less ad-hoc, reduce cost of attending training abroad, increase the number of professionals in the basin, and contribute to minimizing the risk of dam failure in the basin. Therefore, establishing a regional dam safety training center with a well-structured training curriculum in the basin would assist governments, regulators, dam owners, operators, experts, etc. to build their capacity in dealing with dam safety management.

Accordingly, to establish the regional dam safety training center Three International Consultants are just selected as follows:

- 1. Dam Safety Specialist Leader
- 2. Institutional Development Specialist
- 3. Curriculum Development Specialist The Team of the three Consultant will soon start their assignment.

2. The Regional Climate Resilient Project

The Regional Climate Resilient Project will soon be starting implementation from September 2023. Budget, Financier WB, copy components, implementation period (until June 2028).

Staff News



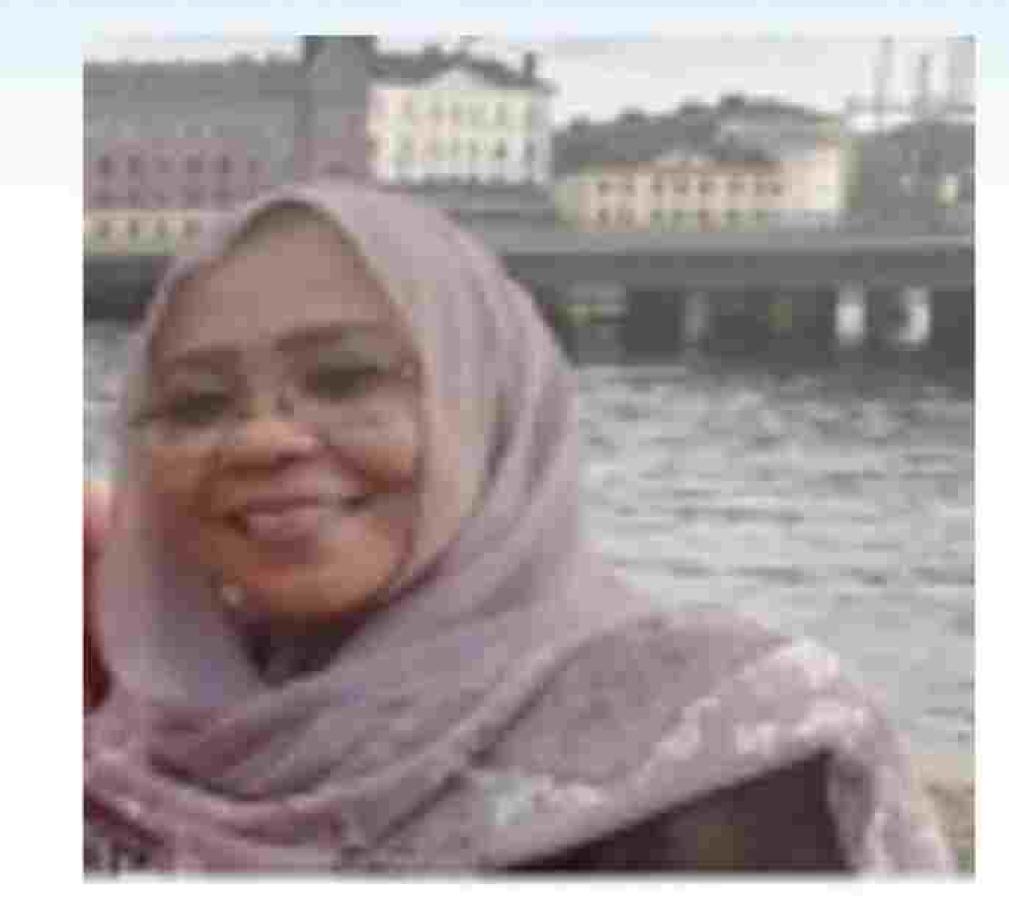
Mr. Hatim Nuh

The Eastern Nile regional office (ENTRO) is pleased to welcome on board the new GIS and Remote Sensing Expert Mr. Hatim Nuh. Having his Educational Background in MSc Degree in remote sensing and GIS and BSc (Honor) Degree in Environmental Studies. Mr. Hatim has more than 15-years of working experience in different organizations as Researcher as GIS Specialist, in Remote Sensing and Seismology Authority, National Center for Research, Dam Implementation Unit, Ministry of Irrigation and water Resources, Sudan and university of Bahri, collage of Natural Resources and Environmental Sciences.

Currently, he is serving the Eastern Nile Technical and Regional Office (ENTRO) under Nile Basin Initiative (NBI) as GIS and Remote Sensing Expert under NCCR Project, focusing on Geo-database management, Spatial analysis and geo-modelling tasks, Mapping tasks and Data collection automation tasks.







Dr. Muna Musad

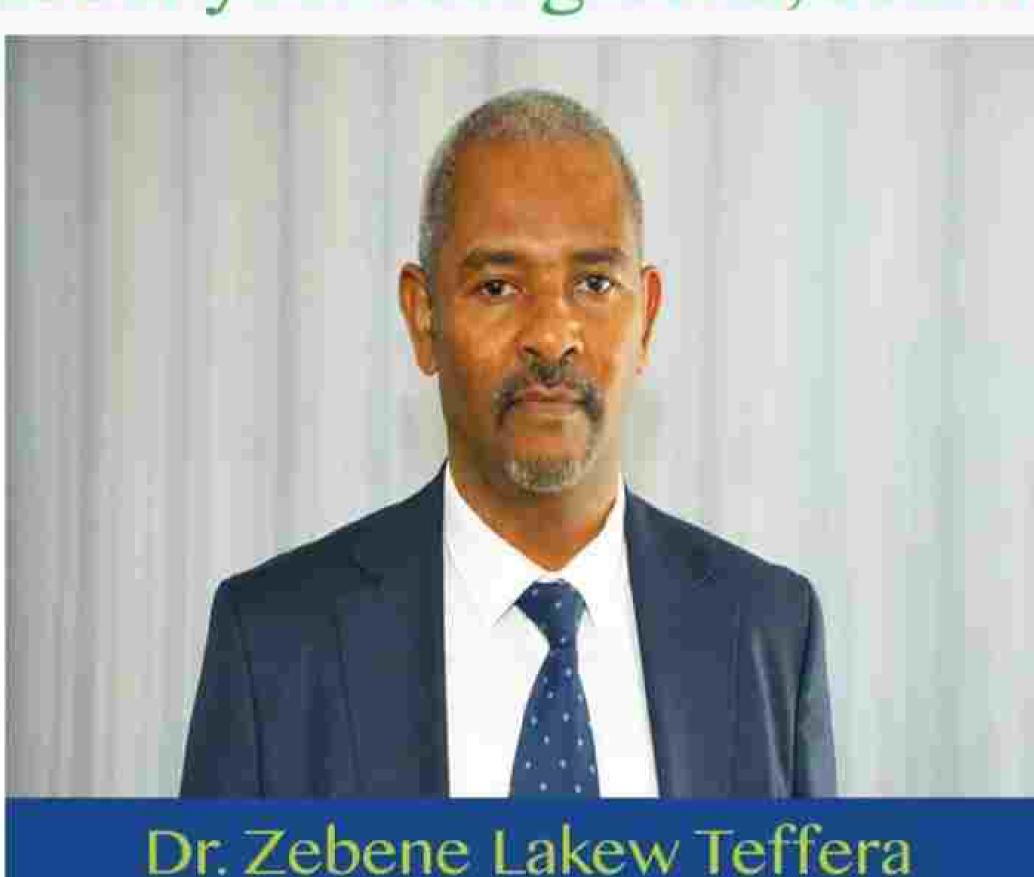
The Eastern Nile regional office (ENTRO) is pleased to welcome on board the new Regional Water Resources Modeler, **Dr. Muna Musad** Having her Educational Background PhD in Water Resources Engineering-Development and Management, UNESCO Chair in Water Resources, Omdurman Islamic University, Khartoum, Sudan.

Dr. Muna has over 17 years of experience as a researcher at the UNESCO Chair in Water Resources and an additional 6 years as a consultant at KIMA consultancy, Dr. Muna has accumulated a wealth of expertise. She has been a vital contributor to numerous local, regional, and international research projects. Among her noteworthy roles, she served as the Coordinator of the Integrated Water Resources Management Network-Sudan (IWRMNet-SD) and played a pivotal part in the Flood Risk Mapping project, a collaboration between UNESCO CWR and RIVERSIDE Company (USA) under ENTRO-NBI.

As a Regional Water Resources Modeler, Dr. Muna aims to support ENTRO in the development and application of cutting-edge models and tools. This involves staying abreast of the latest advancements in water resources management and climate change resilience, Earth Observation technologies, and GIS applications.

Conversation with ENSAPT Chair.

1. Welcome to our "conversations". Please introduce yourself by sharing details about your background, country, childhood experiences, and academic history.



I was born in Goro Woreda, Bale Zone of Oromia Regional State, Ethiopia. My life journey started as an ordinary rural child with good experience in the livelihood of rural community. I attended my primary, junior and secondary levels of education in different schools found in Bale Zone and then joined Addis Ababa University in 1990.I obtained my B.Sc. degree in Geology in 1994. I joined again Addis Ababa University for my second degree in 2002 and obtained M.Sc. degree in Environmental Science

in 2004. Finally, I went to abroad for my third degree in 2015 and obtained my PhD degree in Environmental Science and Engineering from Tongji University in 2019. My research focused on application of hydrological modeling (HEC-HMS), Remote sensing (Enhancement of satellite images using composites of spectral indices and principal component analysis) and GIS for the evaluation of hydrological responses to land use and land cover changes with case study at Middle Awash, Ethiopia.

2. What is your previous work experience?

I started my career in a government organization right after my graduation as Hydrogeologist in Bale Zone where I was able to explore groundwater resource and exploit it for rural and urban water supplies. After acquiring adequate knowledge and skills at expert level, I was promoted to different managerial positions, one of which was Head of Drilling and Construction Section. After serving the government for about six years, I was attracted by private sectors and got employed by Pile Foundation and Water Well Drilling Enterprise where I was able to travel to different parts of the country for groundwater exploration, water well drilling and supervision works. I served the Enterprise for about two years and left it to pursue my post graduate study. After I received my M.Sc. degree, I joined another private company called Addis Resources Development Company where I spent about two years in Geotechnical feasibility study for hydroelectric projects (Gibe II, Baro I, Baro II, Karadobi, Beles and Genalle Dawa) as Project Manager, geotechnical expert and environmentalist. In 2006, I signed contract agreement with Ministry of Water and Energy of Ethiopia for the Master Plan study of the Ethiopian Rift Valley Lakes Basin. Since then I have been serving the Ministry at different positions from expert level to managerial positions. I served as project coordinator for different Irrigation projects such as Humera, Wolkite, Raya and Kobo irrigation projects. I have also coordinated groundwater potential assessment projects such as Ada'a-Becho, Allaidege, Ambo-wolkite, Teru-Chifra, Kobo-Girana, Shinile, Middle Awash, etc. I also served as Director for Groundwater and Study, Research and Information management Directorates. Currently, I am serving the Ministry as Lead executive officer of Boundary and Transboundary Water Affairs and I am also Principal Technical Advisory Committee Member representing Ethiopia for Regional institutions such as ENTRO, Nile-SEC, NELSAP-CU, IGAD and AMCOW. Besides, I am simultaneously coordinating a regional project called HoA-Groundwater for Resilience Project which is funded by the World Bank and jointly implemented by Kenya, Somalia and IGAD.

3. You have been serving as the Chair of ENSAPT for over four years. Could you please provide us with some insight into the role of ENSAPT, its responsibilities, and when it was established?

ENSAPT consisting of three senior technical officials representing each member state is the highest governing body at technical level that supports ENCOM (the highest governing body) of ENSAP. ENSAPT with the support of ENTRO is responsible for identification, preparation and implementation of ENSAP, its sub-programs and projects upon approval of ENCOM. It formulates/reviews policy documents, guidelines, rules of procedure, strategy documents, etc., prepared by ENTRO/consultants and recommends them to ENCOM for approval/endorsement. ENSAPT also oversees and follows up the activities of ENTRO which is the secretariat and the technical arm of ENSAP. ENSAPT was established in 1999 following the decision of the Eastern Nile Council of Ministers of Water Affairs of the Eastern Nile (EN-COM) of the establishment of ENSAP.

4. In relation to the previous question, can you give us information regarding ENCOM, the highest decision-making body, which is supported by the Eastern Nile Subsidiary Action Team (ENSAPT)?

EN-COM is composed of Minsters of Water Affairs of the countries of the Eastern Nile, was established in 1999 as the highest governing body of ENSAP, following the decision of the Nile Council of Ministers (Nile-COM) that countries could establish Subsidiary Action Programs. ENCOM is supported by ENSAPT and ENTRO in the implementation of ENSAP. ENCOM on its Own accord or recommendation of ENSAPT, deliberates on policy issues, formulates and or amend policy guidelines and take decisions on:

- ENSAP resources mobilization plan;
- Preparation and implementation of ENSAP and its projects;
- ENSAP annual work plans & budgets and adoption of technical, financial and administrative reports.
- 5. As a Chair of ENSAPT, it is crucial to consider strategies for enhancing collaboration and decision-making to benefit the Eastern Nile Region. How can Governance and ENTRO work together more effectively to achieve NBI/ENTRO goals and make informed decisions that will positively impact the region?

To effectively plan and execute ENSAP and its projects:

- The Governance and ENTRO should have frequent consultation /discussion b/n governance and ENTRO at different levels, through small group (eg. ENSAPT Chair and or ENSAPT Leaders and ENTRO SMT), regular and extraordinary ENSAPT / ENCOM meetings to effectively plan and execute ENSAP;
- ENTRO should inform/engage Governance at every level of ENSAP projects from inception/CN preparations through project proposals, financial agreements with partners, to preparations, implementation (commissioning of consultants, review of deliverables, etc) and closure of the project;
- 6. What efforts have been made by the Governance regarding Eastern Nile countries contributions (CC) to ENTRO?

The Governance is very much aware of the importance of country contribution for the financial sustainability and the day to day operation of ENTRO. The issue has, therefore, been a regular agenda of the Governance meetings and member states were urged to clear their arrears and to make the annual contributions on time. ENCOM and ENAPT members of the countries with arrears kept on promising to effect the payments. In addition, the ENSAPT Chair / ENSAPT Leaders together with ENTRO, travelled to RSS, and explained to the Leadership the dire financial situation

financial situation of ENTRO and its implication to the cooperation in general and the implementation of ENSAP and its projects in the respective countries, in particular. The Leadership promised to take action and the Delegation returned with full of hope. We are still hoping to get a partial if not all payment of the arrears of South Sudan.

7. Could you please provide an update on Egypt's status regarding cooperation? Additionally, are there any specific procedures or dialogues being pursued to reintegrate Egypt into the Eastern Nile partnership?

What I know is that Egypt is participating in NBI platform selectively. It attends NBI events such as the annual Nile Day celebrations, Nile-COM meetings and the annual Strategic Dialogue between the NBI Governance and the NBI Development Partners. I am informed that a lot of efforts have been made by the governance of ENSAP and the NBI to persuade Egypt to fully participate in NBI/ENSAP activities, since its announcement of freezing its participation in the NBI activities. First ENSAPT and ENTRO Management at ENSAPT level, later on, the Ministers of Water Affairs of of Egypt, Ethiopia and Sudan agreed on the resumption of both Egypt and Sudan to participate in ENSAP activities. Sudan resumed its participation in NBI activities fully, while Egypt continued its selective engagement. I am told, Nile-COM also made a number of attempts to bring Egypt back to NBI. Member states of the NBI keep on calling Egypt to resume its full participation at every NBI event.

8. What do you believe are the most crucial and enduring challenges hindering the progress of the Eastern Nile region?

I believe it is the geo/hydro politics of the region that hinders meaningful cooperation in the Eastern Nile region. In the early days of the NBI, there was a lot of optimism for cooperation in the region; optimism for reaching agreement on a cooperative framework that ensures equitable and reasonable utilization of the shared water resource for each member state; high expectation of cooperative development through the implementation of ENSAP. However, the expectations could not be met. I believe, the most crucial challenge hindering them, is lack of readiness for cooperation of some member states that are enjoying the unfair existing uses and rights of the waters of Nile, particularly, Egypt. Egypt left the cooperation when other states adopted and signed the CFA, rejecting the status quo. Development partners stopped financing investment projects of ENSAP because of the geo-politics of the region and this; I believe it is an enduring challenge that hinders development and progress the Eastern Nile Region.

9. How did you evaluate the level of cooperation and critical gaps in meeting the NBI/ENTRO objective?

NBI is an all-inclusive cooperation platform and the majority of its member states are committed for cooperation. It is this commitment that sustains NBI thus far. I believe, the most critical gap in meeting the NBI/ENSAP objective is lack of finance for investment projects. ENTRO should do its level best in mobilizing the required resources for ENSAP projects. It should prepare as many proposals as possible and lobby potential traditional and non-traditional development partners like its counterpart in the Nile Equatorial Region, NELSAP-CU.

10. Can you give us details about the cooperative framework agreement (CFA) and its purpose for ENTRO/NBI?

The Nile Cooperative Framework Agreement (CFA) applies to the use, development, protection, conservation and management of the Nile River Basin and its resources and establishes an institutional mechanism for cooperation among the Nile Basin States. The Framework was negotiated by the riparian states for over 13 years (1997-2010). All the Basin states were party to the negotiation except Eritrea. The negotiation went through different stages before its adoption, - under the Panel of Experts (PoE), the Transitional Committee (TC), the Negotiation Committee (NC) and finally the Nile Council of Ministers, (Nile-COM) with the support of NC and Nile-TAC. The parties to the Negotiation were not able to resolve their differences on Article 14 (b) on the obligation on Water Security when they concluded the Negotiation. Later on, Egypt retracted its earlier agreement on some more articles. But it was not accepted by the Council, since an article once agreed upon by all parties could not be reopened for negotiation, as per the rules of Procedure of the Negotiation. The Nile Council of Ministers decided to adopt the CFA annexing Article 14 (b) for resolving it through the Nile River Basin Commission (NRBC) after its establishment. Nile-COM made further consultations and discussions on the unresolved issue for about a year and decided to open the CFA for signature in April 2010. The CFA was signed by six member states and five completed the ratification process, so far. The CFA shall enter into force on the sixtieth day following the date of the deposit of the sixth instrument of ratification or accession with the African Union. The transitional arrangement NBI will be succeeded by the NRBC, which is permanent. I believe this will put the Nile cooperation on solid foundation and facilitates the operations of NBI/ENTRO.

11. What were the actual challenges encountered during the last 22 years cooperation process in the Eastern Nile countries, and what is your perspective on the future direction for the next ten to twenty years?

The rationale behind the establishment of ENSAP is the desire and intent of our countries to promote cooperative investment that enables regionally optimized and efficient utilization of Nile water resources resulting in win-win benefits. Lack of cooperation from some member states and lack of finance for preparation and implementation of ENSAP investment projects are the main challenges during the period referred to. The challenges became extreme following the post-CFA signing by the upstream countries and ENTRO moved away from its original mandate of identification and preparation of water resources development projects. I believe, it is time now for ENTRO to refocus on investment preparation, no matter the scale. The Governance and ENTRO have to work hard to mobilize local resources for implementation of investment projects. In addition, we have to urge the Development Partner community to support ENTRO in funding investment projects. In this connection, member states have to settle the significant Country Contribution arrears owed to ENTRO.Our countries need to honor funding commitments made to our common institution.

Our countries need to honor funding commitments made to our common institution without which it will be impossible to cover ENTRO core costs. Development Partner community considers core cost funding as indicator of the seriousness and commitment of our countries to sub-basin cooperation.

12. Can you tell me about your most notable achievements during your time at ENSAPT?

Fortunately, I started my duty at ENSAP as Principal ENSAPT Leader of Ethiopia and Chair of ENSAPT. This role helped me to actively oversee the overall operation of ENTRO and be able to frequently discuss ENSAP issues with the ENCOM leader. I was able to sustain ENTRO operation at difficult financial situations where all member states have been unable to pay their country contributions except Ethiopia. Together with my compatriots, I could succeed in persuading Ethiopia to pay its part as a host country at least for minimum ENTRO function until the other member states be able to clear their arrears and be up-to-date. I was also able to resolve some governance related differences by proposing amicable solutions to the governance. Maintaining governance meetings, as a chair of ENSAPT, at this critical financial situation could be also mentioned as one of the positive achievements.

13. If you could write a message to ENTRO about what needs to be done in the coming years, what would you say?

My messages to ENTRO for the years to come:

- Strive to strengthen cooperation and coordination among the Eastern Nile Countries to work together to manage the shared water resources in a sustainable and equitable manner
- Exert at most effort to mobilize resource for investment
- Deeply concentrate on environmental sustainability and social equity
- Enhance capacity building and knowledge sharing
- Address climate change/variability impacts mainly to safeguard vulnerable communities
 14. Any messages to anyone?

People of the Nile Basin are living in a water scarce region. Scarce water resource triggers conflicts and unrest. Fast population growth and climate change exacerbate these challenges. Curbing these challenges require concerted efforts of all actors in the Basin. Therefore, cooperation for sustainable water resource development and management is not a choice, but a must. I urge all people of the Basin and development partners to join hands for mutual benefit from the shared water resource and avoid any conflicts.







Days at ENTRO





Vision

"A credible, adaptive regional institution fostering sustainable transboundary cooperation".

"We Work to realize shared benefits of cooperative Water Resources Development & Management in the Eastern Nile".

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 work 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 the 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.

