



ENTRO
NILE BASIN INITIATIVE
INITIATIVE DU BASSIN DU NIL

Annual Report

July 2016 –June 2017



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Acronyms

AF	-	Additional Financing
AfDB	-	African Development Bank
BAS	-	Baro-Akobo-Sobat
BCM	-	Million Cubic Meter
CIWA	-	Cooperation on International Waters in Africa
ENCOM	-	Easten Nile Council of Ministers
ENMOS	-	Eastern Nile Multipurpose option Scoping
ENSAP	-	Eastern Nile Subsidiary Action Program
ENSAPT	-	Eastern Nile Subsidiary Action Program Team
GEF	-	Global Environmental Facility
GERD	-	Grand Ethiopian Renaissance Dam
ICOLD	-	International Commission on Large Dams
IWMI	-	International Water Management Institute
IWRDMP	-	Integrated Water Resources Development Management Plan
MSIOA	-	Multisector Investment Opportunity Analysis
NBD	-	Nile Basin Discourse
NCORE	-	Nile Cooperation for Results
NMA	-	National Meterological Agency
NWP	-	Numerical Weather Prediction
SDCU	-	Social Development and Communication Unit
SIWI	-	Swedish International Water Institute
SSEA	-	Strategic Social and Environmental Analysis
WB	-	World Bank
WRF	-	Weather Research and Forecast
PIT	-	Project Implementation Team
RTWG	-	Regional Technical Working Group

Executive Summary

This Annual Report presents highlights of major activities and results thereof for the 2016/17 Budget Year achieved in the midst of challenging external environment to which ENTRO responded by taking appropriate and flexible adaptive measures.

The external contexts that undergird ENTRO's operations broadly included two major factors: the economic and political situation prevailing in the member countries and relationships with development partners. The political and security challenges prevailing in South Sudan, on the one hand, posed challenges particularly in the conduct of the Baro-Akobo-Sobat Multipurpose Water Resources Study Project. On the other hand, this situation has resulted in growing arrear of South Sudan country contribution. Yet another challenge that ENTRO had to overcome has been the fallout from Egypt's continuing freezing of participation and the measures it has been taking to discourage development partners from extending both financial and technical support to ENTRO.

The challenges the external environment posed have been successfully met thanks to the continued county support and encouragement and oversight of ENSAP governance such as the support ENTRO obtained from the governments of Ethiopia, South Sudan and Sudan in the conduct of the BAS Project; the timely payment of country contribution by Ethiopia and Sudan; the close engagement of ENSAPT in ENTRO's project preparation studies both as Steering Committee members and as technical experts reviewing and otherwise enriching consultant study report. Further, the invaluable financial and technical support obtained from development partners, particularly the World Bank Nile Team which managed NCORE project needs to be acknowledged.

Internally ENTRO has leveraged the strong team work and collaboration cultivated over the years. ENTRO in-house expertise has been maximally utilized, for example, ENTRO staff themselves undertake studies and activities that are normally outsourced to external consultants in addition to supervision of ongoing studies; reviewing and providing feedback; in writing project concept notes submitted for funding, both to CIWA-AF2, GIZ and EU-GIZ. ENTRO has also streamlined its activities and adopted some austerity measures to do more with less (such as assignment more work load to the remaining skeletal staff).

Water Resources Development/Investment

ENTRO, as an implementing arm of ENSAP, is focused on promoting cooperative water resources investment thru identification and preparation of projects on the basis of adopting state-of-the-art international best practices. The following have been the focus of our activities during the reporting period:

Baro-Akobo-Sobat Multipurpose Water Resources Development Study: As detailed in this report, ENTRO, with the support of ENSAPT, has undertaken this AfDB-funded Project, provided oversight, supervision and quality control and brought it to completion. Over eight regional consultations, spread across the different phases of the project, involving the three countries of Ethiopia, South Sudan and Sudan have taken place. For the first time ever, this sub-basin has been studied at strategic level and the requisite development options of interventions thereof identified and an Integrated Basin Development plan prepared. The SSEA Study of the

sub-basin, which brought forth both the potentialities and the vulnerabilities of the sub-basin, thus defined the environmentally and socially safe development space within which countries could choose to undertake water resources investments. Further, an Integrated Water Resources Development Plan, Short term projects ready for immediate implementation; TORs for preparation of medium and long term projects have also been provided. Implementation of particularly the short-term projects is flagged and recommended for priority resource mobilization in order to address the most pressing needs of the sub-basin.

Eastern Nile Multisector Investment Opportunity Analysis (EN MSIOA):The EN Multisector Investment Opportunity Analysis Study has clearly shown that all EN water resources development need to respect one overriding criteria, i.e. the limits imposed by the water resources of the ENB, the violation of which would risk the Nile itself. Further, water resources development has thus to fit within social and environmental limits. Thus in contemplating the second round of cooperative water resources investment, Eastern Nile countries need to factor in these considerations. Further, starting such cooperative investments with “no-regrets” sectoral initiatives as stated in the recommendations section (viz. energy sharing; coordinated dam operations, environment and social measures, watershed management, ground water, irrigated agriculture focusing on increasing productivity and efficiencies along with new schemes) would confer benefits to all, while deepening trust and mutuality.

Dam Safety: Over the reporting period ENTRO has consistently promoted and advocated the importance of standardization of dam safety practices for Eastern Nile water resources development given the ongoing proliferation of large and small dams alike in the basin. In this regard, ENTRO has made Eastern Nile visible in international conferences, taken measures to get ENTRO Reference Dam Safety Guideline and Regulatory Framework to be adopted worldwide by ICOLD; undertaken regional training programs, prepared a Road Map to enable coordinated operation of cascade dams as well as supported the establishment of National Dam Safety Units. The success of Eastern Nile dam safety therefore hinges on how well the National Dam Safety Units are strengthened both in terms of manpower and enhancement of technical capacity and competencies.

Watershed Management: ENTRO has prepared a profile of four investment ready watershed projects which have been taken over from the Eastern Nile Watershed Management. Not only implementing these projects is a priority but also scaling them up to cover the most important larger hotspots of degradation, a task to be undertaken in the forthcoming budget year. In this regard mobilizing the requisite resources from within and outside the region should be emphasized

Water Resource Management/Planning:

Knowledge Management: ENTRO has provided input to, supervised and otherwise supported the complex water resources modeling and simulation work that undergird the BASMPWRSP and the ENMSIOA studies. These models are significant additions and will go a long way toward expanding the WR knowledge base. Further, Climate Change Analysis of the EN Sub-basin has been undertaken thru the internship program, along with finalization of the ENMOS hydro-economic modeling tool. The annual flood bulletins have been issued and the web portal updated. However for these to be sustained into the future ENTRO will ultimately need to have its own webhosting environment, along with the requisite hardware/servers and software

and human capacity not to speak of reliable electricity supply. For the flood forecasting to maintain their continued relevance, there is the need for stable contact persons in each country, strengthening country flood forecast units both with hardware and manpower and enhanced real-time data access at national level.

ENTRO Management:

ENTRO Core management, represented by the Executive Director (Ethiopia), the Head of Human Resources (South Sudan), the Senior Regional Project Coordinator (Sudan) have been running the day-to-day financial and human resources management, in addition to collaborating with the other two NBI centers in strategic planning and related basin-wide technical deliberations. As and when needed the Core management has been drawing on senior ENTRO staff in all technical, non-administrative undertakings, including development of project concept notes for fund mobilization.

Partnership/Stakeholder Involvement, environment and Social Safeguards:

ENTRO has striven to inform all its work – studies, analyses and projects – with the necessary social (consultation, stakeholder involvement, outreach, and networking) and environmental safeguarding. To sustain this effort there will be the need to have an environmental specialist in place, along with communication specialist since these are cross-cutting services that need to be inputted into each and every effort of future ENSAP undertaking.

Resource Mobilization:

During the reporting period ENTRO has striven to do more with less, and streamlined its operations to save as much operating cost as possible. However the large volume of arrears from country contributions is posing growing challenge to cover core costs. As regards program funding, ENTRO has striven to explore new funding sources (e.g. Green Climate Funding) in addition to maintaining traditional ones. ENTRO has developed convincing concept notes and proposals which have been accepted for funding by GIZ, GIZ/EU and CIWA-AF2.

1. Background

Program Standard Data	
Program Name	Eastern Nile Subsidiary Action Program (ENSAP)
Ongoing Projects	Baro - Akobo - Sobat Multi-Purpose Water Resources Development Study (BASMP) Nile Cooperation for Results (NCORE),
Program Partners:	Owners: The Governments of Egypt, Ethiopia, South Sudan and Sudan Development Partners: AfDB (African Water Facility, NEPAD – IPPF), and WB-CIWA, Key Stakeholders: local communities in the EN Basin; relevant government agencies, International Organizations, NGOs, Civil society, private sector, academic and research institutions; media.
Program Duration	Continuous, with individual projects of varying start and closing dates (two to three-years duration on average)
Total Current Year Program Budget	July 2016 to June 2017 is USD 3.7 million
Program Goal and Objectives	
Program Goal	To develop the water resources of the Eastern Nile in sustainable and equitable way to contribute to poverty reduction and to ensure prosperity, security and peace for its entire people.
Program Objectives	Reversal of environmental degradation Promotion of economic growth, Increased regional cooperation and integration Enhanced regional peace and security

Milestones in the reporting period

- WB Implementation Support Mission to ENTRO, April 2017
- African Development Bank (AfDB) – African Water Facility and the NEPAD – Infrastructure Project Preparation Facility to ENTRO Field supervision mission to ENTRO, 16th-20th September 2016, to monitor project implementation and flow of disbursements.
- CIWA Additional Financing support to ENTRO/ENSAP started in May 2017

Report Background

The Report covers the period July 2016-June 2017. It is prepared in line with the NBI Results-Based Reporting System, which focuses on documenting and communicating key results. Also, the basis for the report is the annual work plan and budget prepared for the period. The report highlights the performance of two ENSAP projects (Baro-Akobo-Sobat Multipurpose Water Resources Development Study, BAS-MWRDS, and Nile Cooperation for Results, NCORE) and activities financed by Country Contribution. The Annual Report contains the following sections: background information, internal and external contexts of implementation, program achievements (non financial & financial), major challenges and constraints, mitigation strategies, lessons and recommendations.

2. Context as it affected Project implementation

2.1 Internal Context

Cross-disciplinary team work well developed at ENTRO has resulted in significant contribution toward efficient implementation of planned activities and overcoming challenges. ENTRO team has been providing extensive review of consultant deliverables at various stages of the study; developing and reviewing project concept notes/ proposals, facilitating and providing logistical support during capacity building trainings and workshops. Team work has also been a main feature of the resource mobilization effort. ENTRO, in coordination with Nile-Sec embarked on, including developing a number of well thought out fundable project concept notes and proposals, such as for EU-GIZ and CIWA-AF funding.

2.2 External Context

Technical support provided by development partners, as always, has been invaluable. The status of NCORE planned milestones has been reviewed every six months jointly by World Bank implementation support mission and ENTRO. The 6th and 7th Implementation support missions were held at ENTRO in July 2016 and April 2017 respectively.

ENASPT, as the Advisory Team entrusted with technical supervision and as Project Steering Committee Members, have supported ENTRO to implement the BAS project planned activities. The active contribution of ENASPT members in Consultant Report reviews has been helpful in

improving the quality of deliverables and in inputting country specific interests and priorities into the studies.

Strong support from the countries impacted positively the implementation of dam safety related activities associated with strengthening national dam safety units; while shortage of fund constrained implementation at full capacity (e.g. roadmap for cascade reservoir coordinated operation).

3. Actual Results

Below is a summary of major ENTRO-organized events that supported project preparation-implementation work; facilitation of governance oversight and guidance; building national and regional institutions' capacity and supporting the visibility of ENTRO/ENSAP in EN countries. Each event is detailed in the discussion section. A total of 341 participants were involved in these events, 17% of who were women.

Summary of ENTRO Trainings, and Workshops, July 2016-June 2017

	Event	Venue	Date	Gender composition of Participants			Remark
				M	F	Total	
1.	BAS Project Donor Roundtable	Addis Ababa, Ethiopia	25 th May 2017	27	11	38	
2.	The 8 th BAS consultation workshop to enrich TOR and Roadmap for Implementation of medium/Long-term Projects	Addis Ababa, Ethiopia	23 rd -24 th May 2017	32	6	38	
3.	Consultation Workshop on BAS Final Draft SSEA, Updated version of the Short Term Projects and Enrichment of Draft IWRDM Plan	Debrezeit, Ethiopia	30 th April-2 nd May 2017,	35	5	40	
4.	Consultation workshop on BAS 2 nd draft SSEA report, Draft IWRDMP report, Final Communication Plan report, and Feasibility report of the 3 short term projects	Debrezeit, Ethiopia	12 th -13 th January 2017	45	8	53	
5.	Training Workshop on Principles and Practices of Coordinated Reservoir in the Eastern Nile".	Khartoum, Sudan	22 nd November 2016,	36	11	47	
6.	Review Workshop on "A Road Map for Coordinated Operation of Transboundary Cascade Dams in the Eastern Nile".	Khartoum, Sudan	23-24 November 2016	33	4	37	
7.	Final MSIOA Consultation Workshop – "Review Task 4:	Addis Ababa	31 st Oct 2016				

	Investment Strategy and Action Plan”			30	6	36	
8.	BARO-AKOBO-SOBAT (BAS) MPWRDP First SSEA Draft Report Consultation Workshop	Adama, Ethiopia	22nd-23rd Aug 2016,	45	7	52	
	Total			283	58 (17%)	341	

3.1 Results for the Period

Short-term Outcome 1.1: Increased ENSAP cooperative investment projects identified and prepared for implementation

Multi-Sector Investment Opportunity Analysis Study (MSIOA)

The Multi-Sector Investment Opportunity Analysis (MSIOA) study was started as cooperative approach that centered on the main resources of the sub-basin, water, land, livestock (including fisheries), and human capital. The study has delivered the following five study reports following the specific tasks the consultant undertook to accomplish: Task 0- Inception and Country Consultation Report; Task 1- Inventory and Situation Analysis Report; Task 2- Strategic Scoping of EN Multi-Sectoral Investments Report; Task 3- Multi-Sectoral Analysis of Investment Opportunities Report; and Task 4- Investment Strategy and Action Plan Report.

All the study deliverables were consulted with EN stakeholders, including ENSAPT members and feedback obtained thereof inputted into the documents.

The last consultation workshop was held in October 2016 to secure country approval and buy-in on the final and ultimate deliverable of the study, the preferred investment strategy and the recommended investment action plan to ultimately come up with investment pathways of no-regrets. Stakeholders recommended that all 5 reports be integrated into one consolidated summary report to justify the proposed coordinating regional and national actions for non-technical donors; high level policy makers and investors, as the case may be.

Currently, the the procurement process has been started to make the print out. Further, updates on Task 4 report and 10 concept notes have been prepared. The concept notes are in the following areas:

Water Resource Planning/Management to increase sub-basin cooperation and resiliency (EN coordinated Optimal operation of infrastructure, Environmental and social assessments & safeguards, Water quality & sediment monitoring & management, Groundwater monitoring &

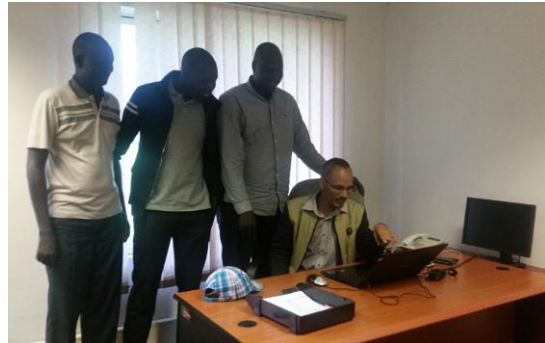
management, Climate change adaptation capabilities, Optimization of water resource use for enhancing win-win opportunities, and Coordination and phasing of win-win ENB development packages)

Water Resource Investment to promote socio-economic development (EN Power/energy security, watershed management to rehabilitate degraded catchments & improve natural resource-dependent livelihoods, efficient irrigated agriculture, and water re-use and salinity management).

Flood Preparedness and Early Warning

The Eastern Nile flood Management and Forecasting has created a credible system that links multiple stakeholders to work together to reduce the risk of flood devastation. To support this activity, ENTRO has been recruiting young professionals from Eastern Nile countries every flood season.

The 2016 flood season, Flood Preparedness and Early Warning activity was conducted from July to end of August which delivered the following;



- **Updates on the forecast and early warning models:** During the year, the Eastern Nile Basin numerical weather prediction shifted from ETA forecast model to WRF forecast model which, in contrast to the ETA model, serves both atmospheric research and operational forecasting needs. The ETA Model has been used during the 2010-2015 flood seasons.
- **Collaboration strengthened with National Meteorological Agencies (NMA)** thru visiting the forecast center and working with their experts in verification of our WRF model and methods of forecasting system.

Rainfall Forecast for the Eastern Nile Basin: Eastern Nile region was continuously monitored for potential severe weather using WRF numerical weather model and other regional and global Numerical Weather Prediction (NWP) models.

- **Flood Forecast for Lake Tana:** The output from WRF weather forecast model has been used by the Configured Hydrologic Modeling System (HEC-HMS) to produce runoff forecast and imposed as upper boundary conditions. Further to Hydraulic River Analysis System (HEC-RAS) model it enables to get the extent of inundation depth and number of flood affected households in the area.
- **Flood Forecast for Blue and Main Nile in Sudan:** It has been done through using precipitation gridded data from different sources (namely RFE, TRMM and CMORPH) from Sudan-FEWS. The average rainfall from three different sources was taken for the catchment

and applied to HEC-HMS model to get hydrological forecast at El Deim station and checked if it was in the acceptable range (didn't exceed the critical water level).

- **Flood Forecast for Baro-Akobo-Sobat (BAS) sub basin in Ethiopia and South Sudan:** The forecast system was developed using GIS Flood Tool with Geographic Information Systems (GIS) to map and compare the characteristic inundation with major historical floods events in the area.

Dam Safety

From 17-18 September 2016, ENTRO Dam Safety Coordinator held a field visit with the International consultant, to Tan Beles hydroelectric plant. The objective was to gather data and information for the preparation of the Road map for EN Cascade dams coordinated reservoir operation. Accordingly, relevant data collected for the preparation of the road map.

Baro-Akobo-Sobat Multipurpose Water Resources Development Study Project

The following are the major outputs of the Study Project. The Study was supported by the BAS Project Implementation Team (PIT) at ENTRO, and the Regional Technical Working Group composed of national experts which brought into the study national perspectives and expertise, and facilitating the availing of data and information. SSEA: BAS Project Implementation Team (PIT) has provided pointed critique/areas of improvement for the SSEA study, identifying social development variables (e.g. identification of potentially affected population groups; their size; spatial location, settlement and livelihood patterns;) that need to be entered at strategic level to assess upstream, the types of social impacts. The team recommended, like the environment, the social impact needs to be better integrated into the study.

Short Term Investment Projects: The BAS project stakeholders of EN-countries prioritized and recommended three (3) Short-term bankable water resources development projects to be prepared as investment/implementation ready:

1. Majang Multipurpose Water Resources Development Project,
2. Akobo-Gambella Flood Plain Water Resources Development Project, and
3. Kinyeti Multipurpose Water Resources Development Project

Medium and Long Term investment projects: Nine Medium and Long Term investment projects have also been profiled along with the institutional framework and M&E set ups.

Baro-Akobo-Sobat sub-basin Integrated Water Resources Development and Management Plan (IWRDMP): It was developed informed by the state of the art 'Strategic Social and Environmental Assessment (SSEA)' and a series of regional consultations involving stakeholders from Ethiopia, South Sudan and Sudan and comments, feedbacks thereof which were inputted and played important role in aligning the plan with the realities on the ground. The Plan is a reference development and investment entry point for the BAS Sub-basin.

Assessment of Spillway Design; Flood Estimation Techniques and Selection Criteria in the Eastern Nile

An assessment report focusing on “Spillway design flood estimation techniques and selection criteria in the EN countries” was completed during the reporting period. Specific objectives of the assessment were to: assess standards and practices used to estimate spillway design floods of some of Eastern Nile dams; assess the design criteria adopted to classify their potential consequence classification and sizing their spillway structures; and Identify gaps and provide recommendations to improve the hydrological safety of dams in the Eastern Nile countries. The main findings and recommendations of the report will be presented to upcoming ENSAPT/ENCOM meeting.

Scenarios for coordinated operation of cascade of dams in the Eastern Nile:

As part of the Nile-Sec strategic water resources analysis, ENTRO employed the service of individual consultant (Water Resource planner) to develop quantified strategic options (scenarios) for coordinated operation of cascade dams (existing and planned) in the Eastern Nile.

Short-term Outcome 1.2: Increased integration of social development and environmental dimensions in ENSAP projects

BAS Strategic Social and Environmental Assessment Report

The Final Draft Strategic Social and Environmental Assessment (SSEA) report was submitted to ENTRO for review and presented in the BAS 6th Stakeholders Consultation Workshop held on 30th April – 2nd May 2017; comments collected before and during the workshop were submitted in written form to the consultant for action to finalize and submit the Final SSEA Report, which is under preparation.

Short-term Outcome 1.3: Increased Enhanced agreement on finance and institutional arrangements for ENSAP prepared projects

BAS Donor Conference to leverage funds for project preparation and implementation:

ENTRO organized a one-day Donor Round Table on 25th May 2017, Addis Ababa during which representatives from: World Bank, the GIZ, European Union; the GEF, JICA and the Netherlands took part. The objective was to mobilize resources for the Implementation of short term prepared projects and for preparation of medium and long term projects in the BAS sub basin.

Short-term Outcome 2.1 Enhanced ENSAP Image in NBI and EN countries

Eastern Nile Media Training (28th - 1st August 2016 Addis Ababa, Ethiopia)

The Training, preceded by over a one-month, intense technical and logistical preparation, was organized in partnership with SIWI's (Swedish International Water Institute) Shared Waters Partnership Program.



There is recognition that EN media has the potential to play constructive role in terms of agenda setting and framing issues, thereby influencing policy making and shaping public opinion in support of EN cooperation. However, unfortunately this is not the reality on the ground because of shortcomings observed in the regional media in terms of covering Nile issues, which result in the perpetuation of misinformation and disinformation. The international media is not helping either, focusing on sensationalized conflict reporting. The objectives of the training included:

- To increase fact-based, accurate and more responsible reporting on Nile cooperation and NBI.
- To increase media coverage, promote awareness and visibility of results and benefits of Nile Cooperation, particularly at national level, broadening the reporting beyond reactive and sensationalist journalism.
- To enable EN media play active roles in the follow-up processes of transboundary projects –.

- To support creation of enabling environment for decision makers within and across countries.

Over 25 Radio, TV, Social media, Print media professionals from Egypt, Ethiopia, South Sudan and Sudan and eight technical experts took part. Extensive presentations were made by experts from SIWI, ENTRO, Nile SEC, University of Dundee, Oxford University, and IWMI. While the demonstration case chosen for the training was the GERD (Grand Ethiopian Renaissance Dam), the particular transboundary process for illustration adopted was the filling of the GERD. presentations included the following: (a) hydro politics of the Nile Basin (b) the role of Multi-track Diplomacy in promotion of transboundary cooperation (c) The Media: – agenda setting, framing and media ethics (d) Water Resources of the Nile (e) International Law and the GERD/ Declaration of Principles [DoP] (f) Regional economic implications of the GERD (g) Cooperative filling of the GERD and its potentials for win-win outcomes (h) Nile Basin Cooperation – evolution, status, prospects. The training workshop was accompanied by a field visit to the GERD, a first for an EN media group joint visit.

Workshop Results

On-site and in the immediate weeks after the workshop over 30 well written, balanced and on the whole cooperation facilitating articles by all participants were published, exchanged and posted on-line and on social media. The media outputs, - workshop results - which often are monitored by international and regional stakeholders working to promote Nile Basin Peace, will play key support in facilitation of resource mobilization for future media training. Trainees kept networking with each other and exchanged their pieces. Even more, this has inspired Nile-Sec to adopt the format of our training i.e. focused, thematic training.

Media Training participation: In December 2016 ENTRO took part in a 5-day Nile Basin Media Training workshop in whose preparation ENTRO SDCU, basing on its own prior experience, made contribution to the planning and organization of the workshop. ENTRO co-moderated a panel session; by coincidence, the training consultant had chosen a priori (having downloaded the video from the internet) ENTRO- Produced documentary advocacy video “Risking the Nile” which was used as best case demonstration on how to conceptualize, design-plan and executive documentary videos.

UNESCO-IHE Media Training: ENTRO took part and shared ENSAP experiences outlining ENTRO’s initiatives in media training, lessons learnt, and the type of training needs that would be helpful, in a UNESCO-IHE organized three day workshop entitled “Mapping Nile Controversies: Media, Science and Water Diplomacy”.

ENTRO/ENSAP Communication Products

Among other routine communication activities of the reporting period, the following products stand out:

Nile-Flow Volume 7: It has been completed whose print work will soon be completed at the next quarter. The Volume includes a special report on the Media Training (above) and the usual contents.

ENSAP Annual Report: has been prepared, and ready for distribution to ENSAP stakeholders.

Publication of a Dam Safety Article: Support has been extended to the publication of a Dam Safety Article in a CIWA News letter.

NBI 15 year Retrospective: ENTRO-SDCU has played lead role in the working out of content outline, design and write up of the 3-center joint publication “*Building on Shared Benefits: Transforming Lives in the Nile Basin*”, which summarizes results of 15 years of Nile Basin Cooperation. ENTRO-SDCU has written two chapters: *Overview and Prospects*; and contributed to a third on *Investments*.

NBI Annual Corporate Report: ENTRO-SDCU and M&E has made contribution to this as well.

Nile News: SDCU has contributed toward reporting ENSAP for inclusion in the latest Nile News of Nile-Sec.

Newspaper Feature Interview: ENTRO SDCU head has provided extensive interview to the high circulation Ethiopian Reporter on the role, capacities and responsibility of EN media to promote basin cooperation.

BAS documentary: ENTRO has recruited two individual consultants to undertake BAS Project Documentary (video file production) which will be used to promote and market the BAS sub-basin. The lead consultant will work on the Ethiopian part of the sub-basin and the other one to work on the South Sudanese part and later integrate the two into one documentary. ENTRO-SDCU is providing follow up on the technical and editorial aspect of the production.

Regional Nile Day Celebration: SDCU has taken part in this regional event held in Dar es Salaam on 22 February 2017. ENTRO, along with the Junior Water Resources Modeler, prepared poster exhibition, featuring ENSAP/ENTRO activities.

Abstract paper prepared and submitted to ICOLD Conference, 2017

An abstract “Eastern Nile transboundary cascade dams: Spillway design flood estimation techniques and selection criteria” was prepared and submitted to ICOLD, for ICOLD 2017 symposium, 3rd-7th July 2017.

Short-term Outcome 2.2: Increased ENSAP dialogue and partnership with government, civil society, local communities, private sector and development partners

River Basin Monitoring for RBOs: ENTRO took part and made contributions in this GIZ-organized Southern African River Basins focused workshop in Maun, Botswana; made presentations on NBI experiences (“Promoting basin cooperation under difficult circumstances” “Nile Basin Wide Strategic Water Resources Analyses – findings of the first phase”, “On the planned NBI hydro-met system”, and “NBI experience preparing State of the Basin Reports”).

Nile Basin Economist Forum: ENTRO participated in the first ever basin wide workshop organized by Nile-Sec which sought to explore the economic dimension of cooperative water resources management in a river basin context. Over 30 participants from within and outside the basin, including renowned economists and water resources professionals, along with EN country representatives took part. Key issues deliberated upon included: water, food energy nexus; country experiences in quantifying water derived economic benefits; quantification, measurement and integration of water pricing into project design; generation of cooperation ranges and regimes, and associated cost-benefit analyses; etc. SDCU head, along with ENTRO, ED made contribution in working group sessions.

Fifth Nile Basin Development Forum: ENTRO has taken part in a 3-center Planning Meeting of this forthcoming important event during which the venue (Kigali, Rwanda), the dates (October 23-24, 2017), the Conference Main theme (“Investing in Nile Cooperation for a Water Secure Future”); Sub-themes which pertain to food, water, energy – the nexus concept- ecosystems, Sectoral tradeoffs, knowledge base, financing, emerging issues, etc. The planning session include: coordination, co-convening, etc. So far, over 100 papers have been presented for selection in the forthcoming planning sessions.

Consultation workshop to finalize the Road map for Coordinated Operation of Cascade Dams in Eastern Nile (23rd -24th November 2016, Khartoum, Sudan)

There are four existing cascade dams along the Abay/Blue Nile-Main Nile (Roseires, Sennar, Merowe, HAD) with an aggregate storage capacity of 182 BCM and further the Grand Ethiopian Renaissance dam (GERD) in Ethiopia (74 BCM) will be commissioned soon. There are also two cascade dams along the Tekeze-Atbara Rivers (Tekeze, Kashim Al Girba). Further Upper Atbara complex in Sudan, with a storage capacity of 8 BCM is almost completed. There are also other dams in the pipeline in Ethiopia and Sudan.



At present, dams in Egypt, Ethiopia and Sudan that are operating are managed without any coordination. However, uncoordinated operation of these large dams, compounded with climate change impacts, variability and/or rainfall variability, would bring changes to the river system, alter water use and management of dams and thus potentially create tensions among riparian countries. As of now, even if the countries chose to coordinate the management of these dams, they cannot - simply because the technical (e.g. water release and operation rules), the institutional (e.g. responsible and accountable entity for coordinated management) and the legal (e.g. treaties encoding coordination) enabling conditions are not there.

The objective of this Roadmap preparation (and the workshop) is to assist Eastern Nile countries in creating awareness on basic concepts of cascade coordination, conduct stakeholder consultation and obtain feedback, strengthen interaction and networking among

participants dealing with dam operation and safety management in a bid to initiating dialogue and providing guidance and direction towards the establishment of coordinated cascade reservoir operation mechanism.

The workshop examined the Consultants' Report of the Situation Assessment of current dam safety practice in each country; identification of gaps and the road map towards the institutionalization of coordination of EN dam operations A Final Roadmap report which inputted all feedbacks has been submitted.

Thirty seven participants attended the workshop (21 from Government offices, 9 from ENTRO, 4 from Development partners (WB and GIZ) and 1 consultant. Nile Sec and NELSAP-CU were represented by one expert each.

Final Eastern Nile Multi Sector Investment Opportunity Analysis (ENMSIOA) Consultation Workshop – “Review Task 4: Investment Strategy and Action Plan” (31st Oct. 2016 Addis Ababa, Ethiopia)

Even though the MSIOA has been very complex, and entailed many challenging tasks, ENTRO has managed to complete this first-ever study that integrates all sector based plans of EN countries, evaluated these on the basis of the hydrologic unit perspective, taking the entire EN sub-basin as the planning space, and assessed these factoring in social, environmental and economic considerations.

The EN-MSIOA was undertaken in five logically inter-linked cascading tasks which progressively built on each other. These tasks were: Task 0: Inception and Country Consultation; Task 1: Inventory and Situation Analysis; Task 2: Strategic Scoping of EN Multi-Sectoral Investments; Task 3: Multi-Sectoral Analysis of Investment Opportunities; and Task 4: Investment Strategy and Action Plan.

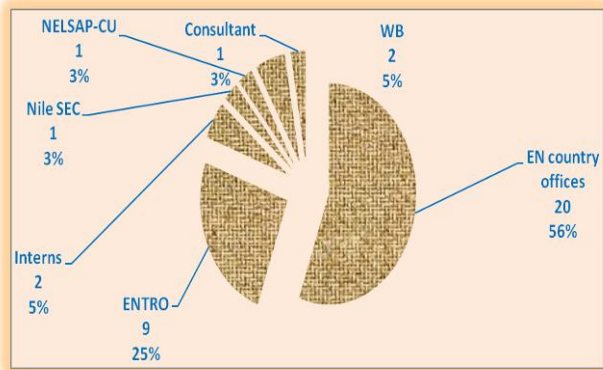


ENTRO team has worked intensely with the water resources planning unit to finalize the MSIOA study, including facilitating the consultations at various phases of the Study; supporting the consultant with a write-up outline and expression of our needs.

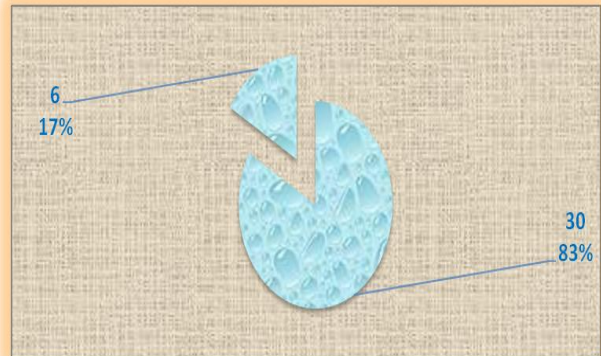
The consultation workshop was organized to achieve the following objectives:

- Brief and update participants with results so far,
- Delineate actions that can be taken at national and regional levels to get EN countries on preferred development pathways,
- Once agreement is reached on the story line and concept notes, ENTRO plans to develop story line and concept notes that package these actions coherently to high-level decision makers and potential financing partners.

Thirty six participants attended the consultation workshop (20 from Government offices, 9 ENTRO staff and 2 Interns) Nile SEC, NELSAP-CU and the consultant were represented by 1 participant each. World Bank was represented by 2 participants. 17% were female participants.



Organizational composition of participants



Gender composition of participants

BAS First SSEA Draft Report consultation workshop (22nd – 23rd August 2016, Adama, Ethiopia);

The BAS project study adopted the Strategic Social and Environmental Assessment (SSEA) because of the social and environmental sensitivity of the sub-basin. One of the key elements in the SSEA study approach is stakeholder’s consultation. The 5th consultation workshop on the First Draft SSEA Report was held from 22nd - 23rd August 2016, Adama, Ethiopia with the following specific objectives:



- a) To accomplish the BAS planned SSEA study approach of bringing together key stakeholders and informants at project milestone stages (deliverable stages) throughout the project study for consensus and early ownership of the study products
- b) To review and enrich the project First Draft SSEA report (in terms of data and information used and the smooth flow or connectivity of the study deliverables)
- c) To update data and information the consultant had obtained from the Countries and Global Sources

The workshop objectives have overall been achieved

ENTRO Project Implementation Team (PIT) has provided extensive review and comments to the consultants on the Draft focusing on study methodology, upstream social and environment

variables to consider in the strategic plan and many related facets, along taking part in all the related deliberations.

Fifty two participants attended the First Draft SSEA consultation workshop (23 from government offices in the EN Countries of Ethiopia, South Sudan and Sudan, 12 from ENTRO, 10 consultants and 6 Interns. Nile SEC was represented by 1 senior official. 7% of the participants were female.

Consultation workshop on Investments in Land and Water in the Eastern Nile November 2016, Wad Medani, Sudan

ENTRO has taken part in a SIWI-organized workshop in November 2016 in Wad Medani, Sudan on “Investments in Land and Water in the Eastern Nile” during which NBI/ENSAP made contributions to the understanding of the overall water balance situation, including results of the strategic analyses, cooperative investment preparation under ENTRO, and the implication of the growing investment in land and water by outsourced agriculture for the EN, particularly for transboundary water resources management. An array of Nile Stakeholders: researchers, policy makers, investors, and practitioners took part in the workshop.

Baro-Akobo-Sobat Stakeholder Second Draft SSEA Consultation Workshop (12th – 13th January, 2017 - Debrezeit, Ethiopia)

The BAS project study adapted the Strategic Social and Environmental Assessment (SSEA) as a study tool and approach because of the social and environmental sensitivity of the sub-basin. One of the key elements in the SSEA study approach is stakeholder’s consultation.

The objectives of the workshop were to validate: The Second Draft SSEA report, Draft IWRDMP report, Final Communication Plan report, The Feasibility Reports of the 3 Short-term projects and the updated Version of the First Draft SSEA report. ENTRO therefore, has organized this stakeholders’ consultation workshop to validate and enrich the project deliverables as indicated above. The workshop was also conducted for the consultant to be able to give some updates on the study progress and final expectations as we work on the resources mobilization.

Outcomes of the workshop include the following: The challenges encountered in accepting the First version of the First Draft SSEA were resolved as the report was reworked; similar is to the IWRDMP; More clarifications and refinement of the Components of the 3 Short-term projects were provided and it was clear for the Consultant to proceed in preparation of the projects; and The communication plan was also commented on to be taken to its final stage.

Workshop participants: The workshop was attended by 43 participants; 6 of whom were female

BAS Consultation Workshop on Final Draft SSEA, Updated Short Term Projects and Draft IWRDM Plan, (30th April-2nd May 2017, Debrezeit, Ethiopia)

The consultation workshop was organized to: validate and enrich the Draft Final SSEA Report; and review/enrich the final reports of the three Short term projects and IWRDM Plan; along with the final stakeholders consultation and communication plan.

During the workshop, consensus was reached between the countries and the consultant to finalize the draft reports of SSEA, three short term projects, IWRDMP and the TOR of medium and long-term projects on or before 16th May 2017, thru incorporating the comments of the countries and ENTRO.



Group work

Forty participants attended the consultation workshop (21 from government offices in the EN Countries of Ethiopia, South Sudan and Sudan, 10 from ENTRO, 7 consultants. Nile SEC was represented by 2 senior officials. Out of the total workshop participants 13% were female.

BARO-AKOBO-SOBAT (BAS) MPWRDP Workshop to enrich TOR and Roadmap for Implementation of Medium/Long-term Projects, (23rd -24th May 2017, A.A, Ethiopia)

The 8th BAS consultation workshop to enrich TOR and Roadmap for Implementation of medium/Long-term Projects was held from 23rd -24th may 2017, Addis Ababa, Ethiopia.



Thirty eight participants attended the consultation workshop (21 from government offices of Ethiopia, South Sudan and Sudan, 10 from ENTRO, and 5 consultants. NBD and World Bank were represented by 1 senior official each. Out of the total workshop participants 16% were female.

AFRICA 2017 – Conference on Water Storage and Hydropower Development for Africa (14-16 March 2017 in Marrakech, Morocco)

The conference brought together experts from 67 countries. Session 13 of the conference focused on ENTRO Dam Safety Guidelines and Regulations which served as basis for ICOLD-proposed two bulletins.



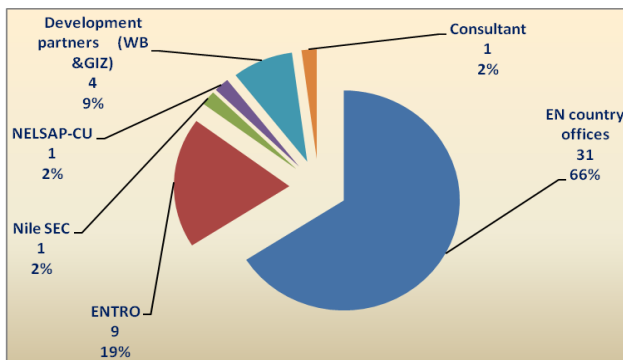
The main content of the documents and its implementation process in EN countries was presented by consultants and ENTRO Dam Safety coordinator.

Short-term Outcome 3.1: Stronger EN institutional architecture at national level to identify, prepare and implement cooperative development Projects

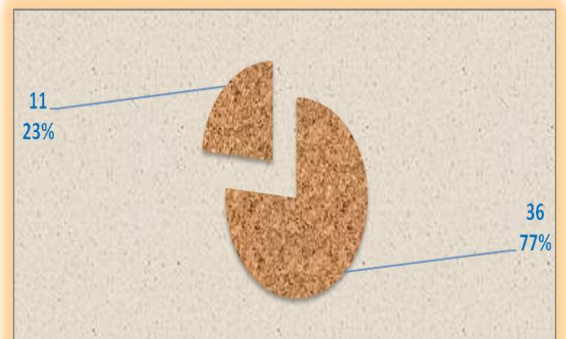
Training on Principles and Practices of Coordinated Reservoir; International practice, 22nd November 2016, Khartoum, Sudan

Back to back to the report review workshop, a one day, 22nd November 2016 technical training was provided to the participants on “Principles and Practices of Coordinated Reservoir; International practice”.

Forty seven participants attended the workshop (31 were from Government sector institutes, 1 consultant, 9 from ENTRO, 4 from Development partners (WB and GIZ). Nile Sec and NELSAP-CU were represented by one expert each. 23% were female participants.



Organizational composition of participants



Gender Composition of participants

Consultative meeting with National Dam Safety Coordinators (Khartoum)

A consultative meeting with National dam safety coordinators (Ethiopia, South Sudan and Sudan) was held on 24 November 2016 in Khartoum, Sudan. The National Coordinators presented the progress made to institutionalize the dam safety unit, challenges encountered and support expected from ENTRO.

Training Workshop on “Reservoir Sedimentation and Sediment Handling for Sustainable Hydropower Reservoirs in Africa” (19 – 23 June, 2017 Addis Ababa).

It was organized in collaboration with the International Center for Hydropower (ICH) and



NORAD. 19 trainees (16 Male and 3 Female), from 7 countries attended the training workshop.

The main objective of the workshop was to identify and discuss with experts working in the sector on the extent of the problem and practical solutions/options of reservoir sedimentation for optimum benefits. Eastern Nile countries' experience on Reservoir sediment management and ENTRO experience in promoting integrated watershed management was presented. Participants visited Gibe I dam and hydropower plant to complement with the theoretical training.

Technical Support to Ethiopian MoWIE

ENTRO provided technical support for the following: Review of dam design reports; and preparation of National dam safety regulatory framework training workshop organized by Dam Safety Directorate.



Participants of Dam Safety Regulatory Framework launching workshop

ENTRO Internship:

The 6th batch of interns took part in ENTRO Internship Program from 1st of June to the end of August 2016. This batch consisted of one intern from each EN country (Ethiopia, South Sudan and Sudan). The interns of this batch have delivered the following outputs;

1. Climate Change Analysis: A Case of Eastern Nile Basin.
2. Update of ENMOS model
3. Project profiling for BAS project providing background information, objectives, progress and outcome of the project,
4. Support of the IT unit with updating the One System Inventory Tool



Short-term Outcome 3.2: Stronger EN institutional architecture at regional level to identify, prepare and implement cooperative developments

NBI 10-Years Strategy:

ENTRO has made thorough revision and contribution to the 10-year (2017-27) NBI Strategy which is envisaged to align and integrate the three center's plans and submit them for national consultations.

Resource Mobilization:

ENTRO prepared seven project proposals for WB-CIWA Additional Financing (CIWA-AF). Areas of the proposal included: Eastern Nile Knowledge Base Enhancement, Eastern Nile Seasonal Forecasting and Flood Forecasting- Early Warning; Eastern Nile Young Professional Internship; Watershed Management Best Practices Assessment for Scaling up; Ground Water Availability and Conjunctive Use Assessment; Eastern Nile Irrigation System Performance Assessment; and Strengthen National Dam Safety Units. The Bank approved the project proposals in April 2017 for funding their implementation.

ENTRO Web Portal/Web site and “eScan Corporate Antivirus” license

Renewal of the “eScan Corporate Antivirus” license: The Antivirus license was renewed for three more years in order to ensure the security of ENTRO computers.

Renewal of the ENTRO Web Portal hosting contract: Web hosting contract was extended which will end in September 2017.

Update and fix of the ENTRO Web Portal features such as the Eastern Nile Climate Analysis tool and Map Tool: ENTRO Web Portal is also getting some touches to fix some problems related to the Eastern Nile Climate Analysis and the EN Map Tools.

Collaboration with key stakeholders in the Nile Basin:

ENTRO, participated in the following events: NELSAP-CU organized Report review workshop “INTERCONNECTION OF ELECTRIC GRIDS OF THE NILE EQUATORIAL LAKES' COUNTRIES POWER SYSTEM ANALYSIS” ; NELSAP-CU organized training workshop on POWER PROJECTS-CONTRACT AND PROJECT MANAGEMENT; Review of UGANDA (OLWIYO) – SOUTH SUDAN (JUBA) 400kV Power Interconnection Feasibility Study,

Fifth Nile Basin Development Forum Preparation: SDCU has taken part in a 3-center Planning Meeting of this forthcoming important event during which the venue (Kigali, Rwanda), the dates (October 23-24, 2017), the Conference Main theme (“Investing in Nile Cooperation for a Water Secure Future”); Sub-themes which pertain to food, water, energy – the nexus concept-ecosystems, Sectoral tradeoffs, knowledge base, financing, emerging issues, etc. The planning session included brainstorming on coordination, co-convening, etc. Over 100 papers have been presented for selection in the forthcoming planning sessions.

Collaboration with IWMI gender mainstreaming specialist: SDCU has held meeting with IWMI gender specialist to identify future avenues of cooperation. In the short run, what has been agreed upon is ENTRO would extend invitation for her to attend the BASWRDP workshop to identify ways of incorporating gender dimension into the planning and implementation of short term projects. She has been linked to NBD coordinator to work with ENTRO on same.

ENTRO is also in partnership with the Nile Basin Discourse (NBD) - a popular Nile Basin Civil Society organization supporting grass root level of consultation while implementing the BAS project study, like in the other NBI projects.

Linkage with Universities: ENTRO has provided written inputs (comments) and interviews to five M.Sc. and one Ph.D. candidate working on International relations, water diplomacy, Role of Art/Culture and political science as it relates to Eastern Nile cooperative water resources management/development.

3.2. Sustainability of Results

The activities outlined in the preceding sections have led to significant results, especially if one takes into account the tough hydro political context that prevailed in the Eastern Nile during the reporting period. All the same, these results need to be sustained in the long run in order to realize the ENSAP 2020 Shared Vision. The following stand out:

Baro-Akobo-Sobat Multipurpose Water Resources Development Study Project: This Project which has lasted over two years and entailed continued engagement of the three countries – Ethiopia, South Sudan and Sudan – has, cost about 3.5 million USD, and delivered significant results. For the first time ever, this sub-basin has been studied at strategic level and the requisite development options of interventions thereof identified and an Integrated Basin Development plan prepared. This achievement will be rendered of limited value, however, unless, as a matter of urgency resources are mobilized to implement the short-term projects, and to prepare medium-term and long-term projects, which confer win-win benefits for the countries, particularly for the long-suffering basin communities are implemented. Hence implementation of these projects is flagged as a priority concern.

Dam Safety: Over the reporting period ENTRO has consistently promoted and advocated the importance of standardization of dam safety practices for Eastern Nile water resources development given the ongoing proliferation of large and small dams alike in the basin. In this

regard, ENTRO has made Eastern Nile visible in international conferences, taken measures to get ENTRO Reference Dam Safety Guideline and Regulatory Framework to be adopted worldwide by ICOLD; undertaken regional training program, prepared a Road Map to enable implementation of a comprehensive regional dam safety program as well as supported the establishment of National Dam Safety Units. The success of Eastern Nile dam safety therefore hinges on how well the National Dam Safety Units are strengthened both in terms of manpower and enhancement of technical capacity and competencies.

Watershed Management: ENTRO has prepared a profile of four investment ready watershed projects which have been taken over from the Eastern Nile Watershed Management. Not only implementing these projects is a priority but also scaling them up to cover the most important larger hotspots of degradation, a task to be undertaken in the forthcoming budget year. In this regard mobilizing the requisite resources from within and outside the region should be emphasized.

MSIOA: The EN Multisector Investment Opportunity Analysis Study has clearly shown that all EN water resources development need to respect one overriding criteria, i.e. the limits imposed by the water resources of the ENB, the violation of which would risk the Nile itself. Further, water resources development has thus to fit within social and environmental limits. Thus, in contemplating the second round of cooperative water resources investment, Eastern Nile countries need to factor in these considerations. Further, starting such cooperative investments with “no-regrets” sectoral initiatives as stated in the recommendations section (viz. energy sharing; coordinated dam operations, environment and social measures, watershed management, ground water, irrigated agriculture focusing on increasing productivity and efficiencies along with new schemes) would confer benefits to all, while deepening trust and mutuality.

Knowledge Management: Over the year, Climate Change Analysis of the EN Subbasin has been undertaken thru the internship program, along with finalization of the ENMOS- hydro-economic modeling tool. The annual flood bulletins have been issued and the web portal updated. However for these to be sustained into the future, ENTRO will ultimately need to have its own webhosting environment, along with the requisite hardware/servers and software and human capacity not to speak of reliable electricity supply. For the flood forecasting to maintain their continued relevance, there is the need for stable contact persons in each country, strengthening country flood forecast units both with hardware and manpower and enhanced real-time data access at national level. At the BAS sub-basin there needs to be a complete renovated set up.

Environmental and Social Safeguarding: ENTRO has striven to inform all its work – studies, analyses and projects – with the necessary social (consultation, stakeholder involvement, outreach, and networking) and environmental safeguarding. To sustain this effort there will be the need to have an environmental specialist in place, along with communication specialist since these are cross-cutting services that need to be inputted into each and every effort of future ENSAP undertaking.

Resource Mobilization: During the reporting period, ENTRO has striven to do more with less, and streamlined its operations to save as much operating cost as possible. However the large volume of arrears from country contributions is posing growing challenge to cover core costs. As regards program funding, ENTRO has striven to explore new funding sources (e.g. Green Climate Funding) in addition to maintaining existing ones. ENTRO has developed convincing concept notes and proposals which have been accepted for funding by GIZ/EU.

4 Program Management:

ENTRO has exerted considerable effort in coordination and management fostering strong team-work and collaboration within ENSAP projects and other crosscutting functional units. ENTRO management was closely following the implementation process of each ENSAP project. In addition to the implementation of the ongoing ENSAP projects, ENTRO played pivotal role in mobilizing resources thru developing project concept notes and project briefs.

5 Program Expenditures:

This budget utilization report is prepared on the basis of the annual work plan & budget for July 2016-June 2017. Out of the total US\$ 3.7 million annual budget for July 2016-June 2017, USD 2.6 million (70.1%) was utilized over the last twelve months ending 30th June 2017.

ENSAP Annual Budget Vs Actual Expenditure, July 2016-June 2017				
ENSAP /ENTRO projects with funding sources	Annual Planned Budget	Annual Actual Expenditure	% utilized	Reasons for the variance, if any
NCORE-CIWA	866,052	602,526	70%	
BAS -AFDB	2,082,573	1,385,926	67%	Delay in conducting stakeholders consultation workshop as planned and submission of deliverables by the consultant
Country Contribution	755,017	617,865	82%	
Total	3,703,642	2,606,317	70.1%	

6 Major Challenges & Constraints and Mitigation strategies:

Increasingly country contribution is becoming a more reliable source of funding for ENSAP. ENCOM 29th has resolved on timely payment of country contributions. However, this commitment is not fully realized yet, and as of 30th June 2017, ENTRO still expects a total of 1,539,334 USD from South Sudan (1,251,334 USD) and Sudan (288,000 USD). ENTRO is working with the countries to resolve the issue.

Eastern Nile countries have made significant progress to lay the foundation for standard dam safety practice in the sub basin and reduce the risk of dam failure. However, there is a lot that remains to be done. Budget constraint is the major challenge to fully address all the proposed activities under the Eastern Nile Dam safety Road map. Concept notes have been developed to mobilize resources.

There has been delay in BAS project implementation because of the Bank's early decision and advise for ENTRO to retender the entire procurement process. This process kept pushing backwards the time schedules of all planned activities, risking the project disbursement deadline of August, 2016. However, as this challenge was anticipated, ENTRO submitted request for extension of the disbursement deadline. Accordingly, the Bank in September 2016 granted an extension to the disbursement deadline as at 31st August 2017.

Internet connection is the main challenge especially for the flood forecast and early warning activity. This work requires good connection to timely disseminate the forecast results. In addition, The IT infrastructures are outdated and needs replacing with better performance server, workstation, etc. Intermittence of electricy supply (power outage) has been the other challenge.

7. Lessons Learned and Recommendations

Delay in any project implementation usually results in increase the implementation cost of the project. It is commendable for adherence to the project planned activities as stipulated in the Project Appraisal Report and the time scheduled for implementation of those activities. This needs close follow up and timely decision making to lead the project in the right track within the set time schedule and allocated budget.

Construction and operation of large water infrastructures on a trans-boundary river requires establishment of the appropriate institutions and mechanisms to ensure integrated operation and management of these infrastructures as well to negate the possible impact of dam failures. Stakeholder awareness is an essential aspect of a dam safety intervention. This needs the active involvement of various stakeholder groups such as the dam owner, operator, the public, regulator, emergency response team, development partners, international communities in order to curb the challenges of dam failures.

To ensure funding support for the preparation and implementation of projects, ENTRO has learned to diversify the funding source boundaries into new development partners in addition to maintaining its good partnership with the existing ones. Towards this end, attending and presenting ENTRO performance to the otherworld would increase visibility of the institution and creates an opportunity to mobilize international financing.