



4TH NILE BASIN DEVELOPMENT FORUM

Building Sustainable Trans-boundary
Cooperation in a Complex River Basin
Challenges | Lessons | Prospects



Date: 6th - 7th October 2014
InterContinental Nairobi Hotel - Kenya

**CONFERENCE
DOCUMENTATION**



Group photo of high level participants

NBI MEMBER STATES



Burundi



DR Congo



Egypt



Ethiopia



Kenya



Rwanda



South Sudan



The Sudan



Tanzania



Uganda

Table of Contents

List of abbreviations	ii
Preface by Executive Director, NBI	1
Part I - Introduction	3
Introduction to the 4th NBDF	3
Opening Session	6
Part II - Session Summaries, Key Messages and Recommendations	9
Session I: Use of analytic tools and planning frameworks in Water Resources Planning & Management	9
Session II: Understanding the complex hydrology of the Nile Basin	11
Session III: The Food-Water Nexus in the Nile Basin	13
Session IV: Cooperative water development & management	15
Session V: Nile Discourses:- Evidence for “One Nile-One Family”?	18
Session VI: The Water-Energy Nexus in the Nile Basin	20
Session VII - Exploring Possible Futures for the Nile	22
Session VIII: Nile Basin Joint Development Planning: Way Forward	24
Session IX: Multi-level Nile Basin Governance - What next for legal, institutional and policy frameworks? Sub-theme: Transboundary water governance	26
Session X: Regional Integration and the Nile - a common agenda?	28
Session XI: Hydro-Diplomacy for the Nile - converging political and technical tracks of cooperation. Sub-theme: Hydro-Diplomacy in transboundary cooperation	31
Session XII: Sustainable financing for institutions, information and infrastructure. Sub-theme: Financing transboundary cooperation	33
Session XIII: High level panel discussion	35
Closing Session	36
Nairobi Declaration	37
Annex a: Session Co-conveners	39
Annex b: Conference Programme	41
Annex c: List of Exhibitors at the 4 th NBDF (alphabetical)	46
Annex d: Organizers of the 4th NBDF	46
Annex e: The 4th NBDF Sponsors	48
Annex f: Summary of Media Coverage	48

List of abbreviations

AfDB	African Development Bank
ASARECA	Association for strengthening Agricultural Research in Eastern and Central Africa
EAC	East African Community
EAPP	Eastern Africa Power Pool
ENSAP	Eastern Nile Subsidiary Action Program (NBI)
ENTRO	Eastern Nile Technical Regional Office (NBI)
CAADP	Comprehensive Africa Agriculture Development Project
CADSWES	Center for Advanced Decision Support for Water and Environmental Systems
CEGIS	Center for Environmental and Geographic Information Services
CFA	(Nile River Basin) Cooperative Framework Agreement
CIWA	Cooperation in International Waters in Africa Trust Fund
DSS	Decision Support System
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
IGAD	Intergovernmental Authority on Development
IWMI	International Water Management Institute
LVBC	Lake Victoria Basin Commission
MIT	Massachusetts Institute of Technology
NBCBN	Nile Basin Capacity Building Network
NBD	Nile Basin Discourse
NBDF	Nile Basin Development Forum
NBI	Nile Basin Initiative
NBSF	Nile Basin Sustainability Framework
NBTF	Nile Basin Trust Fund
NELSAP	Nile Equatorial Lakes Subsidiary Action Program (NBI)
NELSAP-CU	NELSAP Coordination Unit (NBI)
Nile-COM	Nile Council of Ministers (in charge of Water Affairs)
Nile-Sec	NBI Secretariat
Nile-TAC	Nile Technical Advisory Committee
RATP	Regional Agricultural Trade Project (NBI)
RPTP	Regional Power Trade Project (NBI)
SIWI	Stockholm International Water Institute
UNWC	United Nations Watercourses Convention
WEAP	Water Evaluation and Planning

Preface by Executive Director, NBI



John.R. Nyaoro, HSC, NBI Executive Director

The Nile is indeed one of the important rivers of the world that has continued to serve great civilizations, religions and cultures. With a total length of 6695 kilometers and a basin area of some 3.18 million square kilometers, it is shared by 11 countries - home to 437 million people of whom 54% (238 million) live in the basin. The basin's physiography varies from pristine wetlands to vast semi-arid and arid lands resulting in very low runoff coefficients (3.9%) making it one of the most water scarce basins in the world. Livelihoods vary from rain-fed subsistence to mechanized water controlled agriculture with large asymmetry in water resources utilization. The increasing demands on water resources as a result of increasing populations and socio-economic activities, degrading natural resources, wide-spread poverty, food insecurity, low energy access, exposure to increased incidences of floods and droughts as a result of climate change and variability are challenges faced by many of the basin countries. These complex basin-wide challenges and the inconsonant geopolitical and hydrological boundaries call for increased basin-wide cooperative action.

It is in the quest for sustainable solutions to the trans-boundary

challenges that Nile basin countries initiated multi-pronged modalities of cooperative action along three broad lines: **Institutions, Stakeholder Participation and Communication and infrastructure.** The NBI and its subsidiary offices have been spearheading programs in nurturing Basin Cooperation, Water Resources Management and Water Resources Development; providing the unique platform for inter-country dialogue, networking and widening the stakeholders including civil society, private sector, academicians, parliamentarians, women and youth e.t.c. The NBI Centers are building capacities to serve as hubs of knowledge management systems of the Nile Basin, capturing and sharing relevant data and information on the resources of the Nile and developing and applying world class tools for informed analysis and decision making. By way of supporting cooperative investments, NBI has prepared projects of which about USD 1 Billion are under implementation, and about USD 6.5 billion worth of investments require financing. The process of identifying and preparing strategically targeted 'bankable' investment projects - with mutual benefits flowing from cooperative action continues. However, achieving sustainable and climate resilient

growth poses huge challenges and processes in trans-boundary cooperative action.

In this regard, I introduce you to the Conference Report of the 4th Nile Basin Development Forum (NBDF) under the theme: *"Building Sustainable Trans-boundary Cooperation in a Complex River Basin: Challenges/Lessons/Prospects"*. The NBDF is a high level biennial regional event that brings together multi-stakeholders from within and out of the Nile Basin to deliberate on opportunities and challenges in the sustainable development and management of the water resources of the Nile Basin. The Forum was organized in collaboration with the Ministry of Environment, Water and Natural Resources, of the Government of Kenya, from 6-7 October, 2014 in Nairobi. The 4th NBDF was supported by the Nile Basin Trust Fund, including 10 contributing partners (Canada, Denmark, European Union, Finland, France, The Netherlands, Norway, Sweden, United Kingdom and World Bank), German Cooperation implemented by GIZ, and the IGAD Inland Water Resources Management Program.

The 4th NBDF attracted more than 450 participants from within and outside the Nile Basin countries, including ministers in the NBI Member

States, Members of Parliament, diplomats, development partners, senior government officials, water resources experts and practitioners, academia and researchers. Other participants came from the private sector, civil society and NGOs, media, River Basin Organizations as well as international organizations.

The Chairman of the Nile Council of Ministers (Nile-COM), H.E. Amb. Mutaz Musa Abdalla assured stakeholders of NBI's commitment to continue providing a regional platform for managing trans-boundary water resources challenges. He pointed out the decision by Member States to increase country contributions to cover NBI's core costs by 2017, is a clear testimony of the countries' commitment to the organization and its programs.

He noted however that while NBI has made remarkable progress, Nile cooperation is still in its nascent stage, and, gains made so far, could be reversed if Member States and other stakeholders do not jealously guard and support the organization.

During the Opening Session, the Guest of Honor, Prof. Judi Wakhungu, Cabinet Secretary, Ministry of Environment, Water and Natural Resources, Kenya, and Member of the Nile Council of Ministers, emphasized

that "despite numerous resources endowed in the basin, our people still face considerable challenges of poverty, unsustainable water resource management, which lead to pollution, land degradation, political instability, and inadequate infrastructure to mitigate the extreme climatic variations that result into droughts and floods, among others. These scenarios need to be reversed by accelerating the management of the shared water resources in the spirit of cooperation and unity of purpose so as to ensure adequate water availability for all its services such as environment, food and energy production and transmission among others".

The Secretariat took advantage of the Forum, to launch NBI's two flagship Publications, namely the "Nile Cooperation: Opportunities and Challenges" and "Nile Cooperation: Lessons for the World and Lessons from the World for the Nile Basin". The two publications add to the continued knowledge base on trans-boundary water cooperation.

At the close of the 4th NBDF, participants issued a joint Declaration calling upon various stakeholders to play their respective roles aimed at building sustainable Nile Cooperation. NBI will process, advance and mainstream the ideas into its

policy, planning and implementation frameworks as appropriate, besides presenting them at appropriate regional and international fora for support and action.

I would like to express my appreciation to all those who worked tirelessly to ensure the success of the 4th NBDF. The host country Kenya played a very active role in terms of organisation and financial contribution. Others are co-conveners, speakers, moderators, rapporteurs, consultants, development partners, NBI staff and event organizers who all contributed tremendously.

Last but not least, my special thanks go to all those who took off time their busy schedule to attend the Forum and contribute ideas on how to build *sustainable trans-boundary Cooperation in the Nile Basin*.

I wish you all pleasant reading of this report and call on your support in taking forward the recommendations highlighted.

John R. Nyaoro, HSC
Executive Director, NBI



Ministers in charge of Water Affairs; L-R: H.E. Alemayehu Tegenu (Ethiopia), Hon. Prof. Judi Wakhungu (Kenya), H.E. Amb. Mutaz Musa Abdalla Salim (The Sudan) and Hon. Jemma Nunu Kumba (South Sudan)

Part I - Introduction

Introduction to the 4th NBDF

3.1 Themes of the 4th NBDF and its expected outcomes

The main theme of the 4th Nile Basin Development Forum was **“Building sustainable trans-boundary cooperation in a complex River Basin”**, with opportunities for identifying lessons learnt during the last 15 years of cooperation, identifying gaps, the challenges that lie ahead requiring countries’ attention, reflections into the likely directions to emerge and the mechanisms towards achieving them. The expected outcomes were:

- Shared learning on latest scientific information, knowledge as well as best practices that can be replicated.
- Common understanding of the opportunities, challenges and prospects in trans-boundary water cooperation built.
- Opportunities for partnerships and networks explored and initiated.

Sub-themes

The NBDF program was built around eight sub-themes. Each session related to one of the sub-themes:

Knowledge systems and epistemic communities

This sub-theme addressed enhancing the knowledge base on the Nile, use of analytic tools and decision support systems for sustainable decision outcomes; fostering networks and platforms for knowledge dissemination and public understanding. See sessions I, II and IV.

Water-Energy-Food Security Nexus

This sub-theme explored the linkages of the water-energy- and food systems in the Nile basin, and how the nexus approach can provide an avenue for increasing the efficiency of resource use and address food, energy and water security. See sessions III and VI.



Mr. Juma Omondi, Nile-TAC member, Kenya and moderator

Trans-boundary water governance

This sub-theme addressed institutional setups and mandates for trans-boundary co-operation, sustainability and resilience to geo-and hydro-political boundary conditions, policy and legal frameworks, stakeholder engagement and communication. See sessions V and IX.

Benefits of co-operation and risks of non-cooperation

This sub theme focused on the role of Nile resources in catalyzing regional integration processes, promoting cooperative/joint investments, identifying trade-offs and promoting win-win solutions, risk of failure to manage adverse consequences ensuing from uncoordinated development and lack of agreed management regime. See session VIII.

Building partnerships

This sub-theme dealt with providing space for stakeholders including civil society, private sector, parliamentarians, academia, media, and others in the management and development of the shared Nile resources. See session X.

Hydro-diplomacy in trans-boundary cooperation

This sub-theme explored the role of civil society and other non-governmental actors (e.g. Nile Basin countries' ex-diplomats, parliamentarians, international civil servants, influential personalities from the Nile Basin region) in mediating constructive relationships among riparians including track II/citizens' diplomacy. See session XI.

Financing trans-boundary cooperation

This sub-theme dealt with the challenges of securing sustainable financing for water resources development (investment in e.g. water infrastructure), management (analytic systems, shared knowledge base) and institutional platforms for sustaining trans-boundary cooperation. See session XII.

Building resilience through transboundary cooperation

This sub-theme dealt with how Nile cooperation increases riparian countries' resilience to impacts of climate change (e.g. to extreme events and increased variability), such as through identifying collective policy responses; coordinated management of water storage infrastructure; and regional monitoring systems for better preparedness. This sub-theme is addressed as a cross-cutting issue in various sessions throughout the program.

3.2 Forum Structure

The two-day program was structured based on the following three perspectives on Nile Cooperation:

- **Nile Advances:** We took stock of our knowledge and experience base. We presented achievements made, exchanged the lessons learnt and identified the gaps of the Nile Cooperation process to date. See Opening session and sessions I-VI on day 1.
- **Nile Futures:** We envisaged the future(s) we want, and discussed what it takes to get there. We explored plausible scenarios of Nile Cooperation and deliberated on some major challenges that lie ahead. See sessions VII-IX on day 2 (morning).
- **Nile Prospects:** We explored ways ahead to achieve our desired future. As stakeholders, we reflected on our roles and contributions to sustain our achievements and move Nile Cooperation forward. See sessions X-XIII on day 2 (afternoon).

3.3 Program Overview

Day 1, Monday 6 th October		
09.00-10.30: Opening Session (plenary)		
10.30-11.30: Exhibition, group photo and coffee break		
11.30-13.30: Sessions I-III (parallel paper sessions)		
Session I - Use of analytic tools and planning frameworks in Water Resources Planning and Management <i>Sub-theme: Knowledge systems and epistemic communities</i> Co-convener: DHI	Session II - Understanding the complex hydrology of the Nile Basin <i>Sub-theme: Knowledge systems and epistemic communities</i> Co-convener: IWMI	Session III - The Food-Water Nexus in the Nile Basin <i>Sub-theme Water-Energy-Food Nexus</i> Co-convener: GIZ
13.30-14.30: Lunch		
14.30-16.30: Sessions IV-VI (parallel paper sessions)		
Session IV - Cooperative water development and management <i>Sub-theme: Knowledge systems and epistemic communities</i>	Session V - Nile Discourses: evidence for "One Nile - One Family"? <i>Sub-theme: Transboundary water governance</i> Co-convener: NBD	Session VI - The Water-Energy Nexus in the Nile Basin <i>Sub-theme: Water-Energy-Food Nexus</i> Co-convener: GIZ
16.30-17.00: Coffee		
17.00-18.00: Exhibition (continued)		
18.00: Dinner		
Day 2, Tuesday 7 th October		
08.30-09.30: Session VII: Exploring Possible Futures for the Nile (plenary)		
09.30-11.00: Sessions VIII and IX (parallel panel discussions)		
Session VIII - Nile Basin Joint Development Planning: Way Forward <i>Sub-theme: Benefits of cooperation and risks of non-cooperation</i>	Session IX - Multi-level Nile Basin Governance - what next for legal, institutional and policy frameworks? <i>Sub-theme: Transboundary water governance</i>	
11.00-11.30: Coffee		
11.30-13.00: Sessions X-XII (parallel panel discussions)		
Session X - Regional integration and the Nile - a common agenda? <i>Sub-theme: Building partnerships</i>	Session XI - Hydro-Diplomacy for the Nile - converging political and technical tracks of cooperation <i>Sub-theme: Hydro-diplomacy in transboundary cooperation</i> Co-convener: SIWI	Session XII - Sustainable financing for institutions, information and infrastructure <i>Sub-theme: Financing transboundary cooperation</i> Co-convener: World Bank
13.00-14.00: Lunch		
14.00-14.30: Key Messages from day 1 and 2 (plenary)		
14.30-15.30: Session XIII - High level panel discussion (plenary)		
15.30-16.30: Coffee		
16.30-17.15: Closing Session: Reporting back, NBDF Declaration, Vote of Thanks and Closing (plenary)		
18.00: Press conference		



The High Table during the Opening Session L-R: Prof. Edith Zagona, Colorado State University, Prof. Mark James Mwandosya, Minister of State in the President's office, Tanzania, Mr. Gustavo Saltiel, Nile Program Manager at the World Bank, Hon. Prof. Judi Wakhungu, Guest of Honor and Cabinet Secretary, Ministry of Environment, Water and Natural Resources-Kenya, H.E. Mutaz Musa Abdalla Salim, Nile-COM Chair, The Sudan, John Rao Nyaoro, HSC, Executive Director, NBI, Mr. Udo Weber, Head of Development Cooperation, Embassy of the Federal Republic of Germany in Uganda.

The opening session was presided over by Professor Judi Wakhungu, Cabinet Secretary, Minister of Environment, Water and Natural Resources of Kenya, also a Member of the Nile Basin Council of Ministers, on behalf of His Excellency, Hon. Uhuru Kenyatta, President of the Republic of Kenya and Commander in Chief of the Armed Forces. She welcomed the participants to Kenya, noting that the NBDF provides the stakeholders with an opportunity to share experiences and knowledge on the complex and diverse Nile River basin. She noted that a lot has been achieved under the NBI in the areas of capacity building, knowledge based water resources and water resources development. The regional challenges however still remain and are compounded by the emerging ones like climate change. She reiterated the commitment of Kenya to the Nile cooperation and called upon the development partners to continue supporting the Nile cooperation.

The Executive Director of the Nile Basin Initiative, Mr. John Nyaoro, highlighted the successes of NBI. He informed the participants that the forum provides a platform for science policy dialogue, where information is freely shared. Considering the complexity of the basin and the associated regional challenges, it is only cooperation that can ensure sustainable management and development of the basin.

The Executive Director also briefed the forum participants about the journey of cooperation under the NBI. The presentation highlighted major characteristics of the basin with further illustration of the complexity and the need for cooperative development. The multi-track - approach that was adopted in 1999 and has been under implementation, as well as the legal framework were noted

to have been instrumental in achieving the gains under NBI. The achievements were highlighted and included: providing enabling environment for investment to take place on the ground, enhanced knowledge based water resources management, and identification and preparation of investment projects.

H.E. Mutaz Musa Abdalla Salim, the Nile-COM Chair, and Minister for Water Resources and Electricity of The Sudan, addressed the forum. He welcomed participants to the forum and noted that many achievements have been made under the Nile Basin Initiative. An enabling environment for investment to take place on the ground is in place, capacity for knowledge based water resources management has been built, and investment preparation and leverage of regional significance has been undertaken. He noted that NBI is at a critical stage when the funding is reducing while the activity level is increasing and underscored the importance for investment based funding. He further noted that the Nile-COM is making efforts to bring Egypt back to the active participation in the NBI.



H.E. Mutaz Musa Abdalla Salim, Nile-COM Chair, The Sudan

Keynote Addresses;



Prof. Mark James Mwandosya, Minister of State in the President's office, Tanzania

Prof. Mark James Mwandosya, Minister of State (Special Duties) in the President's office, United Republic of Tanzania, delivered a key note speech entitled "The Nile a bridge for cooperation and unity". He highlighted that the Nile binds together people of the basin in many aspects and is a reason for cooperation. Benefits far outweigh the costs of cooperation. The river Nile is a bridge for cooperation among riparian states and other stakeholders. As a bridge the NBI fraternity has played a key role in informing policy regime in the basin. The Nile Basin is the most widely studied basin in the World. The challenge presented is how to use the river in a cooperative manner. The river was symbolized as a bridge across culture, the historical connection, the faith/religious significance, and the Nile as a bridge of generations. The pyramids in Sudan and Egypt were given as examples of a bridge for generations. The history of cooperation on the Nile was also shared beginning with the flood disasters of the early 1960s to the current NBI, noting that NBI has been a bridge for cooperation. The fact that NBI had survived for over 15 years, was testimony that it was addressing the basin challenges. It was observed that the theme for the 4th NBDF was in harmony with the principles of the Cooperative Framework agreement (CFA). The merits and benefits of the CFA for the basin management and development were highlighted.

Mr. Gustavo Saltiel, Nile Program Manager at the World Bank, in his keynote address, noted that NBI has accomplished tremendous achievements in a relatively short time. Through NBI, countries have been able to prepare investment projects of regional significance worth nearly US\$ 6.5 billion. As the countries are still faced with challenges of poverty, the joint management and development of the shared water resources is critical in reducing this poverty. The low water infrastructure development in the basin offers the countries with the opportunity to continue with the cooperation and deliver more substantial local benefits from regional engagements. With the capacity in knowledge based water resources management built, and capacity forming a foundation for cooperation, the countries are well placed to take the cooperation to a higher level. In conclusion, the achievements of NBI in the last 15 years were applauded and continued support of the World Bank pledged.

Prof. Edith Zagona of Colorado State University delivered a keynote address entitled "Sustainability through collaborative use of data and analysis tools". Based on the common challenges, analogy of the Colorado River Basin was made to the Nile River Basin. The Nile is a complex basin of 11 countries, faced with food, energy, and economic securities. By 2050, the storage will change from 200 BCM to 430 BCM. Hydropower will change from 6,000MW in 2015 to 27,000MW in 2030. NBI is about integrated water resources management with collaborative decision making tools. She shared that the ability for renegotiation of the Colorado treaty between Mexico and USA was aided by the technical analysis. She stressed that in "going forward, it is important to undertake the following; sharing data, find tools that you like and share, take ownership of the tools - the tools will never be perfect but ask for more, add new discoveries, aim at IWRM and sustainable system solutions, and establish collaborative processes. At some time there will be an emergency and everyone has to know. Through the analysis, let the technical experts endeavor to give the river the voice. Let it speak for itself!"



Prof. Edith Zagona, Colorado State University

The Executive Director gave a presentation on NBI Journey which highlighted the historical legacies that have continued to influence hydro-politics in the Nile Basin. The presentation further stressed those regional challenges such as degradation of land and water resources, asymmetric availability of information, vulnerability to Climate Change impact that can only be addressed through cooperation.

In addition, two flagship Publications were launched: **Publication 1** entitled "Nile Cooperation: Opportunities and Challenges" provides an overview of the basin, including hydrological, social, economic, geopolitical, environmental, developmental and historical contexts. In addition, it examines and discusses the socio-economic and environmental opportunities that exist within the basin and that can help to meet the development aspirations of basin citizens. It looks at the implications for Nile cooperation of key trade-offs that countries will need to consider and the risks they might face as a result of non-cooperation and addresses appropriate management and mitigation measures that can help to optimize the use of the shared water resources.

The Flagship Publication 2 entitled **“Nile Cooperation: Lessons for the World and Lessons from the World for Nile Basin”** reflects on and critically analyses the Nile cooperation process to date, identifies and documents key lessons learnt to share with the international community. The paper examines implementation and achievements to date and synthesizes lessons learnt in a number of areas including legal and institutional frameworks, quality and

extent of cooperation, and commitment and involvement of member states in different approaches to cooperation. It further reflects on and documents relevant lessons from other complex river basins, such as the Niger, that can inform dialogue, policy and practice changes within the Niger Basin, chosen because of their relevance to current Nile Basin challenges.



Hon. Prof. Judi Wakhungu, Guest of Honor and Cabinet Secretary, Ministry of Environment, Water and Natural Resources-Kenya, launched the two Flagship Publications.

Part II - Session Summaries, Key Messages and Recommendations

Session I: Use of analytic tools and planning frameworks in Water Resources Planning & Management

Session Overview: The session looked at how analytic tools and planning frameworks could advance Nile cooperation and support riparian dialogue. The objective was to demonstrate NBI's state-of-the-art analytic tools and planning frameworks and to share experiences and lessons on how their application could support decision making at basin, sub-basin and national levels.



Dr. Abdulkarim Seid, Head of Water Resources Management, Nile-SEC

A decision support system for integrated water resource management in transboundary river basins, by Abdulkarim Seid

In this session, the Nile Basin Decision Support System (NB-DSS) was introduced. The presentation covered the context which led to the development of the NB-DSS, DSS functionalities and highlights of those features of the DSS which facilitate water resources planning and management decision making in a multi-stakeholder environment. It was presented that the NB-DSS has been designed as an analytic framework that integrates information management, water resources modeling, water resources scenario management and decision making tools in an integrated manner. Six DSS application cases were presented and used to test the DSS and addressed a range of water resources management issues at transboundary level in support of informed, scientifically based and cooperative decision making.

Application of the Nile DSS in the Development of the National Water Resources Strategy for Uganda, by S. Sewagudde, Uganda

An application of the Nile DSS in the development of the National Water Resources Strategy of Uganda was presented by Mr. Sowed M. Sewagudde, Senior Hydrologist and Water Resources Modeler at the Directorate of Water Resources Management of the Ministry of Water and Environment of Uganda. He indicated that modeling work for the study was based on MIKE BASIN model

while the subsequent analysis including a Multi-Criteria Analysis (MCA) was undertaken in the NB-DSS with a set of 101 comparator indicators to facilitate Multi-Criteria based evaluation methodology to evaluate the respective development scenarios. Three "building blocks" of scenarios were considered focusing on 1) potential hydropower development, 2) potential wetland irrigation development, and 3) potential upland irrigation development. The results were then analyzed and ranked based on their relative impacts on flow regimes, social and economic viability. The presentation recommended that to support policy and decision making regarding water resources development, relevant decision making bodies need such a tool to screen various combinations of development options, and quickly identify the trade-offs and implications on the main socio-economic sectors at catchment, national and basin levels.

Multipurpose Water Resource Planning and Management Using Nile DSS. Case Study Tana Sub Basin, Ethiopia, by H. Achenef, Ethiopia,

Another case study application was presented by Mr. Habtam Achenef, Water Resources Specialist, Abay Basin Authority, on the topic of Analysis for Multipurpose Water Resources Planning and Management in the Lake Tana Sub-basin using the Nile Basin-DSS. The model Mike Hydro was utilized to undertake simulation and modeling of Lake inflow/outflow, and scenario analysis related to upstream irrigated agricultural development and impacts on hydropower generation, navigation, lake evaporation and fisheries. The Nile-DSS was then used to evaluate the scenarios using a set of economic, environmental and social indicators and presenting the results to a multi-stakeholder team for review and decision making. The biggest impact of upstream irrigation development is on lake navigation prompting the presenter to recommend the need to conduct additional refined analysis and consideration to adjust operation of upstream reservoirs to take navigation requirements into account.

Development of Water Resources Planning Scenarios in the Complex Hydrological System of Eastern Nile Basin, by A. Hassan, CEGIS, Bangladesh

Dr Ahmadul Ahmed, Water Resources Planner, Ministry of Water Resources, Bangladesh (CEGIS), presented a hydrological model for the Eastern Nile using SWAT. This was followed by scenario development and analysis from both "exogenous" factors - Climate change and drought, and using "endogenous" factors - staged dams

development, irrigated agriculture in stages, land use (change in agriculture and change in cropping pattern), and sediment management. Sensitivity to different climate change and drought scenarios were highest for the Tekezze-Atbara-Setit Sub-basin, and lowest for the Baro-Akobo-Sobat- White Nile Sub-Basin. In addition, impacts were cited related to peak flows, annual stream flows and annual flow distribution.

Summary of Discussions

Dr Yosif Ibrahim, Ex: Head of Water Resources Planning and Management Unit of ENTRO presented a discussion note on the approach citing the need to be cautious in treating the complex hydrology of the Nile (such as up-scaling of models, dealing with uncertainty); the need to take due regard to human, social, and technological interaction impacting on future water distribution and hydrology. Dr Yosif recommended integrated and holistic approach aiming for sustainable growth, testing with, for example, alternative tools, more robust methodologies, water diplomacy, participatory and negotiated approach for planning and managing the Nile Basin water resources.

During the discussion, questions raised included: the availability of data and data gaps, how to take into account uncertainties, marketing efforts underway to make the Nile-DSS more useable, and the experiences in using the Nile-DSS for flood and drought related issues. The presenters responded by outlining plans for acquiring some 300 more licenses to encourage wider use. In addition, plans are underway, by NBI to implement regional hydro-met services and to build-in additional capability to incorporate the SWAT model.

Dr Michael Butts (UNEP-DHI) discussed some of the challenges in developing Decision Support Systems in a brief talk entitled "Bridging the gap between scientists & engineers and stakeholders & decision-makers". He concluded that despite the challenges of the many different hydrological processes and hydrological models, many sectors and stakeholders and the broad range of water resources issues in complex basins like the Nile, the key goal is to encapsulate the right information to meet the end-user needs.

Summary of Main Points and Recommendations

- Data and information are key inputs to models and DSS. Collection and sharing of data and information is paramount for modeling and decision support.
- Uncertainty in future hydrologic and other parameters are dealt with through formulating probable scenarios that cover the entire spectrum of probabilities (ensembles) to be examined by the DSS; linking the output to relevant environmental and socio-economic factors. Behavior of the system, response to induced changes, and altered patterns and dynamics under

different conditions can be assessed and therefore building sound long-term strategies and plans are well informed.

- Large number of trade-offs and unlimited number of what-if application cases can be addressed and thereby inform decisions. This leads to rational management on one hand and exploring and harnessing development opportunities on the other.
- Numerical Models and Analytical Tools are useable for a wide range of analysis. Nevertheless, the interpretation of results, the comparison and ranking of possible options, and the selection of the most desirable planning alternative require decision making based on experience and knowledge.
- The complex hydrology of the Nile requires utilization of analytic tools and DSS, especially if climate change impacts are to be considered; adding another dimension of complexity.
- Scenarios tested and analyzed by the modelers can address an unlimited number of parameters and aspects such as induced infrastructures (damming), rise in temperature, drought cycles, and other settings. Multi-stage modeling can be an effective approach. Broad (high level) simulations can be initially practiced to give indicative modeling on tendencies and responses. Detailed modeling with more comprehensive data sets and detailed modeling setups can then be completed to further enhance the results.
- More integrated approach that includes holistic methodology of bridging the gap between science and engineering, stakeholder involvement, and political dimension is needed. Hydro-diplomacy is a powerful means of paving the way towards achieving the specific national as well as regional development goals based on the modeling and DSS outputs.
- Model results should be presented in terms of a range of values together with the associated uncertainty. This caters for the assumptions and cumulative inaccuracies.
- Using the NB-DSS to conduct strategic assessment, perform multi-dimensional analysis for unlimited number of scenarios and planning options, simulate a wide range of alternatives and estimate the range of values attributed to selected variables at different temporal series. The NB-DSS will enrich the knowledge base, facilitate the dialogue, inform decisions, and alleviate conflict based on better understanding of the system.
- Incorporate livestock studies and livestock requirements into the modeling activities.
- Groundwater modeling and conjunctive use need be included in the analysis and use of water resources.



Head Table - Session II

Session overview: This session took stock of the existing knowledge on the Nile basin hydrology, including evapotranspiration, erosion/sedimentation and impacts of climate change. The objective was to further build a shared understanding on the resource base and to highlight the important role of hydrological monitoring for advancing Nile cooperation.

Status of hydrological monitoring in the Nile basin, Riverside technology By Dr. Mark Woodbury, Riverside Technology, USA

In this session, the physical and administrative complexity of the Nile Basin for monitoring was highlighted and, therefore, the need to devise careful strategies for establishing effective and sustainable monitoring networks, particularly in support of regional or basin-wide cooperation and development objectives.

A successful Regional network flows from a collective operation of individual successful national networks

He highlighted the need to ground the networks to provide data that lead to improved socio-economic outcomes, sustainable and consistent technologies with sustainable training, institutional capacity and sustainable funding. He stressed the importance of integration with and support for national monitoring systems, flexibility of the national system design to integrate data from multiple sources by enforcing consistent design standards and evolution of policy on data availability.

Linking sediment source to sink. Case study: the trans-boundary Blue Nile River, by Amgad Ahmed Omer, Sudan

Implementation of erosion/sedimentation control practices can start from the sub-basins that are providing the most sediments - that was the conclusion of a research work presented in a paper entitled "Linking Sediment Source to Sink; Case Study: the Transboundary Blue Nile River" by Mr Amgad Y. A. Omer, manager of the technical office of Dam Complex of Upper Atbara Project in the Dams Implementation Unit of the Ministry of Water Resources and Electricity - Sudan. The study carried out a sediment balance of the Blue Nile followed by conducting sediment stratification analysis inside Roseires Reservoir and compared with mineral content of samples in the Upper catchments correlating this with land use changes in the most eroded sub-basins. The results showed that the sub-basins of Jemma, Didessa and South Gojam as the main sediment source areas indicating the priority areas for intervention.

Understanding the Hydrology of the Nile: Mapping Actual Evapo-transpiration for the Nile Basin Countries, By Milly Mbuliro, NBI

Water balance of river basins and the sub-units is an important analysis in water resources planning, management and development with Actual Evapotranspiration (AET) being an important component of this exercise. The Nile Basin hydrology is characterized by relatively highly AET, but AET is not easy to measure and Remote Sensing (RS) has been recognized as the most feasible means to provide spatially distributed regional AET on land and water surfaces. Ms Milly Mbuliro, GIS/Remote Sensing Specialist, presented the work done

by NBI in generating operational AET using RS based on MOD16 ET global product using an improved algorithm that calculates ET over deserts, urban areas, inland water surfaces and vegetation. The AET is generated at a spatial resolution of 1 Km in all the NB countries and with temporal resolution of 8 days, monthly and annual basis using data of 2000-2014. The input data and generated AET has been made available at www.nileis.nilebasin.org.

"70% of the rainfall in wettest areas of the Nile Basin goes back to the atmosphere"

Climate Change Impact on Variability of Rainfall Intensity in Upper Blue Nile Basin, by L. Y. Worku, Ethiopia

One of the complexities of Nile Basin Hydrology is the large rainfall variability both temporally and spatially and which is expected to be impacted by Climate Change. In an effort to understand the impact of Climate change on variability of rainfall intensity in the Upper Blue Nile sub-Basin (Abbay Basin), Mr Lakemariam Yohannes Worku, of the National Meteorological Agency, Ethiopia presented analysis using precipitation from two Global Climate Models (HadCM3 and CGCM3). The Intensity-Duration-Frequency (IDF) generated results indicate that there will likely be increases in precipitation extremes over the Upper Blue Nile sub-Basin. The presenter however, warns of cautious interpretation of the results in view of the uncertainties of the GCM models and calls for further work in this area.

Summary of Discussions

During the discussion, questions arose about availability of adequate data to conduct the planning, management, and development of water resources and it was seen that without reliable data, it would be difficult to conduct refined regional activities and therefore the need for proper design of a regional hydrometric network. Another issue raised was related to appropriate technology in regards to the balance between the parameters required and the technology needed, and it was recommended that appropriate technology needs to be employed in monitoring not only to achieve reliable data but also get the required parameters. A question was posed about Remote Sensing approaches known to overestimate AET, and the need to ascertain the level of confidence on the results. Other issues raised included the need to identify technical and policy changes to enhance data sharing and challenges of operationalizing data sharing in an atmosphere of national sovereignty.

Summary of Main Points and Recommendations

- Data required for planning and management, need for rational approach for design of a regional monitoring network to enhance the planning, management, and development of the resource.
- Appropriate technology in monitoring is required, with capacity built to utilize the available technology.
- Regional systems should support national systems and the flexibility of the national systems is paramount.
- Need for deliberate efforts to use the AET to enhance understanding of the hydrology of the Nile.
- Need for coordinated management in the Nile Basin for efficient management of the losses, particularly from water storages.
- Need for adaptation and mitigation mechanisms as the Basin will experience extremes in rainfall intensity.
- Sustainable funding for monitoring networks is vital.
- There is a call for more water balance analysis for small catchments to help Nile communities to better understand which sub-areas generate more water.
- Sedimentation remains a challenge in the Nile Basin, efforts to reduce sedimentation should be put in place, especially by mobilizing the local communities to manage the localized sources of soil erosion.
- A strong foundations exists for collaboration, technical development and network operation, therefore, the establishment of the regional hydrometric network should be expedited
- Need for data is paramount in planning and management of our resource; data sharing is critical and efforts to realizing the implementation of the data sharing protocol should be enhanced.



Head Table Session III

Session Overview: The session explored linkages between water and food security in the Nile Basin. It looked at scenarios of agricultural development and trade in the basin in relation to water security. Scenarios of food production and trade from a basin perspective and case studies on water use efficiency changes and management at the irrigation scheme and watershed levels were discussed.

The session further explored how improved water and food security can be achieved in the Nile Basin by taking an approach that seeks coherence of policies across sectors and scales as well as described what has been done in the basin in this regard to date and the lessons that can be drawn for the future.

Food for thought: scenarios for the Nile Basin, by Bart Hilhorst,

Mr Bart Hilhorst, independent consultant proposed a structure for a systematic and multi-stakeholder analysis of complex policy issues in the Nile Basin related to food security, agricultural trade and rural development. The paper introduced a process for scenario building towards developing plausible range of future demand for agricultural produce in the Nile Basin in the horizon 2030 and the forces of shaping the demand including population growth, increase in calorie intake, changes in export/import...). The objective was to identify the action(s) that need to be taken now, (such as agriculture and water resources development policies, cooperative development options, etc) to provide food security in the context of factors such as population growth and climate change uncertainties. The presenter argues that with the proper timing and sequence of policy measures, intra-basin agricultural trade could be one option that contributes to food security.

Promotion of regional trade based on comparative advantage is expected to save water and enhance sustainable water security, food security and economic growth.

Potentials of agricultural trade in the Nile Basin, By Dr. Helen Natu

Hellen Natu, currently Regional Manager for the Nile Basin Discourse presented the work done by NBI during the period March 2010 to December 2012 in response to concerns of climate change and food insecurity of Nile Basin countries. The first was a cross border trade value chain analysis of five Nile Basin agricultural corridors, to identify strategic and trans-boundary investment potentials that enhance efficient water use and food security in the region. The second was the virtual water/water footprint capacity building, analysis, documentation and awareness creation, to enhance policy dialogue and decision making for efficient water use towards food security. The work focused on grains and pulses, fruits and vegetables and livestock "on hooves". During the process, collaboration was sought with private sector regional commodity groups and regional bodies such as the AU, IGAD, COMESA and EAC. Trade is considered as an important vehicle for improved water efficiency in the Nile Basin, along with increased agricultural productivity, as it permits production of least-water intensive crops in water scarce countries or regions within a country and importation of water-intensive crops from water abundant countries or regions within a country.

Potential of rain-fed agriculture for food security in the basin, by Dr. Hezron Mogaka, ASARECA

The low input agriculture widely practiced by farmers in the countries of Nile Basin cannot meet the growing demand for food and cash income whilst the high risk associated with the variable weather conditions acts as a major constraint to increased uptake and utilization of production technologies that have the potential to increase productivity while maintaining or improving the resource base. Based on this premise, Dr Hezron Mogaka, Program Manager for Natural Resources Management, introduced the findings from a number of initiatives supported in the Nile Basin Countries by the Association for Strengthening Agricultural Research in Eastern and Central Africa (ASARECA). One such on-going initiative is

'Improving Agricultural Water Productivity under varying and changing climatic conditions'.

The initiative sought to increase the availability and productivity of water in smallholder rain-fed and irrigated agriculture at both farm and catchment levels and thereby alleviating the negative impacts of variable rainfall. Two watersheds were identified in each of the participating countries (Kenya, Ethiopia, Madagascar, Eritrea and Rwanda) to serve as field laboratories for future work on integrated watershed management (IWM). Through the IWM approach adopted by the initiative, several productivity-enhancing technologies were evaluated and promoted with remarkable success. Majority of the technologies adopted were mainly for Soil and Water Conservation (SWC) due to their perceived benefits.

The outcomes of the IWM were increased food security, increased incomes, and eco-system improvement. The presentation concluded that participatory market driven integrated watershed management provided the best-bet in enhancing the productivity of agricultural water in the drier parts of the Nile Basin countries.

Towards a remote sensing based operational decision support system for agricultural water and crop management in the Gash Delta - Sudan, by Younis Gismallah, Sudan

Mr Younis A. Gismalla, Associate Professor (Water Resources Engineering) and Director General of River Engineering and Dams, Hydraulics Research Centre (HRC) - Ministry of Water Resources and Electricity, Sudan presented the results of a research piloted in the Gash Delta regarding the use of smart ICT for weather and water information and advice to smallholders and managers. Farmers were thus able to make informed decisions on crop water management (when to irrigate and how much water to apply) resulting in decreased labour and pumping costs, savings in the limited groundwater, and better planning for agricultural operations. The delivered data on crop growth and agricultural water management were derived using a specialized program that can compute the actual evapotranspiration by the crops, as well as biomass production using satellite based input data. The research was funded by IFAD and conducted by a consortium led by IWMI with four countries (Egypt, Ethiopia, Sudan and Mali) participating. The research has been successful in supporting productivity increase and contributing to livelihood improvements, and recommended for wider areas such as the Gezira Scheme in Sudan.

The Impact of Climate Change on Crop Productivity in the Eastern Nile Basin of Sudan, By Khalid Biro, Hydraulic Research Center, Sudan

Agricultural plans and decisions need to take into account factors such as climatic uncertainties (e.g. rainfall), argues Dr Khalid Guma Biro Turk, researcher

at the Hydraulics Research Centre (HRC), Sudan, in his presentation on the results of a research work funded by the Nile Basin Capacity Building Network (NBCBN). The research analyzed rainfall and temperature variability and correlated them with some agronomical parameters such as sowing dates for crops, and crop yield. FAO's AquaCrop Model (FAO, 2012) was used for the analysis. The results of the analysis revealed that, high productivity is associated with high rainfall and low temperature and recommended that agricultural master plans for the area need to take into account climatic uncertainties into account in decision making on agronomic practices.

Summary of Discussions

- It was a very interesting and informative session with lots of different perspectives and insights on the interdependencies between water and food and the question how one sector influences the other sector (and vice versa).
- However, it was also made clear that some of the intended and unintended linkages between water and food (and other nexus topics) are not yet sufficiently well understood and researched - in spite of promising research (such as research on the water footprint of different crops in the Nile Basin) and approaches (such as scenario analyses) being undertaken.
- This leaves us in a situation where we have to deal with uncertainties with regards to water and food as well as external factors such as climate change; nonetheless, at the same time there is a need to develop decision-making tools and guide policy-makers.
- In addition to the rather narrow and direct nexus between water and food, there is another challenge that has received high attention during the session - the challenge of adequate governance and related legal and institutional framework conditions for addressing the water and food nexus once identified.

Summary of Main Points and Recommendations

- Better understanding the water-food nexus and developing smart and adequate responses to the identified challenges (e.g. through ICT, value chain approaches, integrated watershed management for the strengthening of ecosystem services, etc.),
- Strengthening the governance architecture around this nexus (and other nexus) at local, national and transboundary level, with transboundary level particularly important for harvesting gains of cooperation that couldn't be achieved through unilateral action.



Head Table Session IV

Session Overview: The session looked at practices of cooperative water resources development and management in the basin. The objective was to exchange knowledge and experience and to create a common understanding on what win-win opportunities could be tapped through cooperative approaches in water resources development and management.

The Kagera River Basin: A Framework for the Sharing of Resources. By Erik van der Berg, Aurecon. Presented by Dr. Verno Jonker

Dr Verno Jonker, Technical Director with Aurecon presented the study on the Kagera River Basin. The objective of the study was to establish a framework for joint management of the water resources of the Kagera River Basin and sustainable development oriented investments, in order to improve living conditions and protect the environment. This study carried out diagnostic assessment, strategic planning and development of a Basin Development Plan, with an implementation plan and Investment strategy complete with a prioritized portfolio of bankable projects.

Summary of Main Points and Recommendations

- Hydropower projects would benefit the largest number of people
- Water supply projects for large towns/cities will have greatest immediate impact
- “Basin Sharing” is important but projects should also address the need and priorities within individual countries
- Large volumes of water are available for possible utilisation. Water alone does not bring development - it supports development
- Importance of taking into account cumulative impacts during analysis
- Sometimes dams need to be planned, sited and designed for a primary purpose - multipurpose being secondary benefits.
- Smaller dams weirs may be a better way of investing funds and developing resources, than the construction of a few large schemes
- Small scale projects (e.g. small stock watering dams or rainwater harvesting) implemented at local authority / village level should be planned and encouraged
- Groundwater is a neglected resource - often sources can be optimised through conjunctive use
- Watershed management should not be an option but a given - offers good value for money.

Reservoir Filling Options Assessment for the Great Ethiopian Renaissance Dam (GERD) using a probabilistic approach; By Z. Tesfaye, NBI; presented by Ms Azeb Mersha

"There would be no significant harm expected from the GERD if we followed an appropriate filling mechanism and consider the long term benefits as a climate shock absorber, flood risk mitigation tool and more importantly a power hub in the region"- this was the conclusion of the presentation entitled - Reservoir Filling Options Assessment for the GERD using a Probabilistic Approach by Eng. Azeb Mersha, Water Resources Modeler at ENTRO.

For optimal water management in the Nile, a coordinated reservoir operation needs to be consultatively developed and adopted

The objective of the study was to develop an approach that replaces the classical method of evaluating the impact of filling dams under three hydrological conditions i.e. Wet, Dry and Normal or Average sequence of years. This new approach provides the probability of energy shortage, energy production, water shortage, water saving, water level drop in downstream reservoirs below a threshold value, probability of meeting/not-meeting environmental flows, evaporation losses, etc. during the filling of the reservoir by running multiple traces of hydrology. This will allow decision makers to be aware of the risks in each scenario. The methodology adopted in the study was taking the probabilistic approach by using multiple traces of hydrology, scenario development and undertaking economic analysis to show the opportunity cost of choosing one scenario over another.

Summary of Main Points and Recommendations

- There is a systematic way of addressing the concerns regarding the filling and long term operation of the GERD.
- The dam offers a development window for the much needed growth and cooperation in the region and downstream impacts can also be managed and well-studied with an all-inclusive process using tools like Riverware.
- There is also a window for water saving by capturing the overbank flow and the huge loss of water during flooding and by avoiding evaporation from the flood plains.
- As was indicated in the full paper, there is no significant harm expected from the dam if we follow an appropriate filling mechanism and the long term benefits as a climate shock absorber, flood risk mitigation tool and more importantly a power hub in the region is reflected in the analysis results.

Modifying the Operation Rules of Jebel Aulia Reservoir for higher reservoir levels, by Eng. A. Hayaty, Sudan

Eng. Ahmed Elsidig Ahmed Hayaty, Assistant Research Engineer at Hydraulics Research Center, Sudan - presented the results of a study for revised operation rules for the Jebel Aulia Reservoir to meet the requirement of agriculture schemes. The methodology adopted was to carry out consultative water balance analysis for 4 scenarios of reservoir operations and followed by impact assessment on the downstream (D/S) requirements, annual dam maintenance, flood plain agriculture, evaporation and hydropower generation.

Summary of Main Points and Recommendations

- The operational modification will affect the agriculture activity both positively and negatively,
- Increased hydropower-generation and days of high water level (for the benefit of pumped schemes), higher evaporation,
- Decrease in flood plain agriculture and time for dam maintenance,
- The recommended scenario is one with the least increase in evaporation and minimum impacts on flood plain agriculture,
- For optimal results, a coordinated reservoir operation be developed for all the storage reservoirs in the Nile River system.

A simplified method in assessing reliabilities of a multipurpose reservoir using equivalent catchment concept and stochastic modeling and simulation techniques, The case of Lake Tana Ethiopia, By Mr. Azeze Belete, Ethiopia

Mr Mulugeta Azeze, Lecturer at Bahir Dar University, introduced the concept of a simplified method in assessing reliabilities of a multipurpose reservoir using equivalent catchment concept and stochastic modeling and simulation techniques based on a case study of Lake Tana, Ethiopia. The study objective was to develop a suitable simple model/tool that can be used for assessing Lake Tana's characteristics and its performance measuring indices in a limited data environment. The methodology adopted was utilizing the net supply approach (use of hypothetical equivalent catchment). The presenter identified the minimum level for the lake to maintain the reliabilities of the lake services and that more than 10% reduction in net supply capacity of Lake Tana catchment from upstream irrigation developments has a great impact on the natural integrity of the Lake and the services offered by it. The presenter argued that the conceptualization and subsequent modeling and

simulation works are very simple to be easily applied and used as guiding tools in the planning and management practices of sub basin water resources systems and in other areas with similar problems in Nile basin.

Summary of Main Points and Recommendations

- An attempt to operate Lake Tana below 1784.55 masl doesn't improve significantly the reliabilities of the services
- More than 10% reduction in net supply capacity of Lake Tana catchment resulting from upstream irrigation developments has a great impact on the natural integrity of the Lake and the services offered by it
- Need to strengthen the information systems and aspiring for developing and applying advanced water resources systems planning and management tools.

Challenges and prospects of community-based gully rehabilitation in the Birr Watershed, Upper Blue Nile Basin, Ethiopia, By Mr. G.K. Ayele, Ethiopia

Getaneh K. Ayele, PhD candidate in integrated watershed management at Bahir Dar University presented the results of a participatory gully rehabilitation program carried out on a pilot site in the Birr Watershed, Upper Blue Nile Basin, Ethiopia. The objectives of the research were to assess the effectiveness of a participatory approach in watershed management and determine costs and benefits of rehabilitation. The results of the research were that religious leaders and elders played critical role for effective implementation of community mobilization and conflict resolution, farmers were empowered to negotiate with authorities about the kind of land rehabilitation work and benefited from this participatory gully rehabilitation, with their perception changed about causes of land degradation. The success on a pilot case has triggered expansion of the participatory approach to other sub-catchments.

Summary of Main Points and Recommendations

- The role of religious leaders and elders is paramount for effective implementation of community mobilization and conflict resolution
- Farmers were empowered to negotiate with authorities about the kind of land rehabilitation work
- Farmers benefited from this participatory gully rehabilitation
- This project changed farmers' perception about causes of land degradation.

Session V: Nile Discourses:- Evidence for “One Nile-One Family”?



Participants on Nile Discourses

Session overview: The session takes an empirical approach to look at Nile discourses in the political and technical arenas and riparian communities. The objective is to better understand the role of social capital formation and stakeholders' perceptions for transboundary cooperation, and exchange lessons from 15 years of Nile cooperation.

Discursive Institutionalism, Analysing the Evolution of the NBI Cooperation Discourse over the last decade (2004-2014), by Ramy Lofty Hanna, University of Sussex, UK

Ramy Lofty Hanna, PhD candidate at the Institute of Development Studies (IDS), University of Sussex in the UK, argued that based on assessment of NBI's progress achieved during recent years as well as the results of different programs and projects indicate that there is a discursive evolution of the concept of cooperation within the NBI institutional setup from managing water resources towards sharing water benefits. He postulates that although the cooperation discourse is slowly shifting from cooperation over technical aspects of water management towards cooperation for benefits of water, it requires multi-level cooperation (horizontal and vertical interactions) to integrate political will, knowledge, science, voices of local communities, innovation and capital in a dynamic fashion to address dynamic challenges. It also requires the evolution of discourse beyond sharing benefits towards a wider participation and beyond traditional key players and institutions to engage and mobilise human and “social capital” within the basin including civil society, academia, epistemic communities, local communities, (responsible/innovative) private sector, amongst other emerging players.

Governance of Transboundary Basins: Lessons learnt from NBI, By Tom Waako, NBI

Good governance of transboundary basins has gained recognition as a key factor to the wise use and sustainable management of the shared water resources, argued Tom

Waako, Program Officer at the NBI.

Towards this end, transboundary institutions, such as the NBI have distinctive roles in streamlining governance of shared river basins through providing the platform for regional dialogue, enhancing common understanding and development of the resources to optimal capacities. He highlighted the achievements of the NBI in promoting regional policies and practices, trust and confidence building through building strategic partnerships and engagement of various stakeholders, institutional strengthening and increasing portfolio of prepared cooperative investments that have reached USD 6.5 Billion. He however, warned of the risks to the cooperative gains made if the formation of the permanent cooperative institution (Nile Basin Commission) is long delayed.

Cooperation on shared water resources promotes wise use and sustainability of the finite resource

Political Economy Analysis of Good Enough Governance to Building Partnerships in Nile Co-operation for Confidence Delivery of Benefits, Donald Kasongi, Governance Links, Tanzania and NBD Board Secretary General.

Current institutional framework sets a foundation (but not sufficient) for enabling the co-operation for perpetual management of the basin, argues Donald Kasongi, Researcher and Policy Analyst at Governance Links and chair of the Tanzania Nile Discourse Forum (TNDF) in his presentation on the topic of “Political Economy Analysis of Good Enough Governance to Building Partnerships in Nile Co-operation for Confidence Delivery of Benefits”.

The overarching conclusion of the presentation is that while the current institutional framework sets a foundation for enabling the co-operation to yield the expected

perpetual management of the basin, a considerable catch up with the less attended but critical drivers is necessary. Four emerging recommendations include: The need for strengthening the engagement with non-water but influential governance institutions covering both upstream and downstream member states (like EAC, IGAD, ICGLR, COMESA), Promoting context-specific and innovative communication strategies across communities using cultural competence, enabling competence-focused capacity building coupled with facilitating result-based sustainability dimensions amongst riparian communities.

Future Nile Vision: Technical and Hydro-political Imperatives to Address Future Water Security and Sustainable Cooperative Development, By Semu Ayalew Moges, Addis Ababa University, Ethiopia; presented by Dr. Mussa Mohammed Abseno

“The fundamental water security threat in the basin is ...not water scarcity but uncooperativeness stances, lack of permanent cooperative institutions and unilateral development activities of the riparian countries for more than half a century”.

Dr Semu Moges, Associate Professor of Water Resources Engineering at Addis Ababa University posits that the fundamental water security threat in the Nile Basin is not water scarcity – that there is more water in the system (through e.g. integrated watershed management approaches, reducing non-productive evaporation through converting to evapotranspiration, increased water use efficiency in irrigated agriculture) than anticipated water shortage threat but requiring robust scientific study, common and cooperative agreement. He warns, however, that water scarcity will become an issue in the future, in addition to worsening socio-economic development conditions, if no cooperative action is taken now. Dr Semu further posits that if basin-wide cooperation does not take root, it risks of being irrelevant. He justifies this risk by citing the large demands on water resources as a result of burgeoning country populations (86m in 1950, 417m in 2010 and forecasted to 889m in 2050), economic growth and urbanization, and the likely continuing non optimal approaches that will otherwise prevail as countries get pressed to address the demands.

Community Based Adaptation to Water under Climate Change as a tool for Conflict Transcendence in the Nile River Basin, Lama El Hatow, Erasmus University Rotterdam, the Netherlands

Ms Lama El Hatow, PhD candidate at Erasmus University, Netherlands, presented the results of a research on community based adaptation to water and climate change as a tool for conflict transcendence in the Nile River Basin.

The research was based on the premise that stakeholder engagement at the community level, utilizing the Human Integrated Management Approach (HIMA), can bridge the gap between communities along a river basin. The HIMA is also defined as a community based natural resources management system that promotes sustainable livelihoods, resource conservation and environmental protection, for human wellbeing. The Nubians in Aswan, Egypt, were examined in the research to determine the effectiveness of such models and for lessons learnt for adaptation in other infrastructure projects with similar impacts. The research also discussed the role of Civil Society and NGOs in raising awareness, bridging local and traditional knowledge gaps across a river basin.

Summary of Discussions

- Cooperation goes through different necessary stages— that need to be travelled; quantifying benefits of cooperation at all levels; discursive evolution---technical aspects to water benefits appreciated and dealt with ... evidence is multipurpose projects;
- Faster evolution in NBI technical aspects noted than in the political arena; continued effort to realizing the broader benefits of water cooperation; requires dynamic governance model;
- (Engaging communities in all investment projects and ensuring that trans-boundary communities affected by same issues/sharing the resources are consulted and their concerns are all addressed;
- River basin cooperation goes through different stages and the NB cooperation needs to reach a stage where benefit beyond water can be taken up.

Summary of Main Points and Recommendations

- NBI countries to ensure linkages between the Shared Vision Project (SVP) outcomes and the Subsidiary Action Program (SAPs) are effective such that communities would benefit;
- Governance to work on increasing the social capital formation by engaging with the civil society at micro and macro levels;
- NBI to engage the EAC/IGAD and other regional pertinent organizations and CSOs;
- There is a huge demand for communication over basin issues and other resources broadly;
- Competence focused capacity building--- without being too much technical should be made to be delivered;
- Learn lessons of the Nubians’ case related to High-Aswan Dam for all NB water resources infrastructure projects. Consider historical, cultural and heritage contexts;
- Enhance stakeholder engagement at all levels in all NB programs and projects;
- Demonstrate benefit sharing at micro, mezzo and macro levels;
- Ensure challenges are resolved through legal and institutional frameworks.



Head Table Session VI

Session overview: The session explored how the water and energy systems interconnect in the Nile Basin. The discussion focused on how a nexus perspective can induce policy- and decision-making that accounts for external effects across sectors – reducing the negative effects and maximizing the synergies.

The energy situation in the Nile Basin (demand and potential), By Dr. Humphrey Ndiwiga

Given the steady average GDP growth rate of 6% in the last decade in the Nile Basin Countries, and projected growth of about 5.4% for the next decade, Dr Humphrey Ndiwiga (AfDB) posited that at regional level, investment in generation capacity must be more than doubled every 10 years, and for countries maintaining a GDP above 12%, generation capacity must be doubled every 5 years to meet energy needs. This translates to 329.9TWh (energy) and 48.4 GW (Capacity) in 2015 forecast to 1,025 TWh and 147.6 GW for 2025. He also maintains that trans-boundary power exchange is not just an option, but the only option to mitigate rapid price increments in some countries. The transmission interconnection will be a reality from 2017 when a number of grid systems are interconnected, opening the opportunity for attracting investments including the power sector. Most of the generation capacity will come from hydropower, but by 2035, focus will shift from hydropower to more expensive alternatives as most of the economically feasible sites will have been exhausted.

Validating a WEAP Model for the Whole Nile Basin, By Dr. Mohammed Elshamy, NBI

Dr. Mohamed Elshamy, Regional Water Resources Modeler at Nile-SEC presented hydrological and basin-wide validated model for the Nile using the Water Evaluation and Planning (WEAP) together with how the results can be applied to determine regional impacts and options for trade-offs. The analysis using the WEAP model is expected to assist in assessing the impact of Climate Change on infrastructure and to suggest options and methodologies to enhance the resilience of existing and

planned infrastructure to Climate Change. Focusing on hydropower and based on already identified hydropower sites, the model was tested to identify the demand and supply of energy requirements. In addition, related regional impacts on reservoir operations will be analyzed such as impacts of upstream development on downstream sites. Example cited is the case of Hydropower generation on High Aswan dam as a result of upstream impoundment. In this regard, role of power interconnection, coordinated reservoir operations, and system-wide water saving are some of the scenarios that may be proposed to ameliorate the negative impacts. Further to the DSS tool already developed by Nile-SEC, the WEAP based analysis will support Nile Basin developers in assessing regional and transboundary issues related to large infrastructure development.

Integrating Climate Change Uncertainty to the Development of the Nile Basin: Mainstreaming Climate Change into Regional Hydropower Project, By Mr. Asegdew Gashaw Mulat

Another modeling study focusing on the Eastern Nile hydropower development was presented by Mr Asegdew Mulat, PhD candidate at Addis Ababa University using the water resources model - Mike Hydro within the DSS platform developed by NBI. The approach adopted was to analyze the flow data of the Eastern Nile catchments with and without Climate Change factors, assess related effects on hydropower production and building new water resources management scenarios to mitigate the impacts. This approach was tested on two hydropower generation schemes - the GERD in Ethiopia and the Roseires in Sudan. Eight scenarios were considering incorporating climate change and reservoir operational policies. The modeling exercise indicated that maximum energy production is maximized at 1700MW capacity at GERD and 622 masl minimum reservoir level. For Roseires, energy production could increase up to 72% as a result of the GERD, and minimum impacts from Climate Change as a result of upstream regulation. The paper suggests cautious interpretation of these findings, and recommends the acquisition of more reliable and representative hydro-

met data for all major catchments in the Eastern Nile, optimization study incorporating other water uses, mitigation option to address any impacts/deficits including development of Regional reservoir operation plan and strategy that integrates hydrological forecast model and dynamic operation rules.

Use of a water resources model for basin planning in the Nile Equatorial Lakes region, Eng. Emmanuel Olet, NBI; presented by Mr. Benjamin Ssekamuli

The use of water resources model for basin planning in the Nile Equatorial Lakes region was presented by Benjamin Ssekamuli, Water resources Database and GIS Specialist with the NELSAP-CU. To support investment planning, a study was conducted to help identify, prioritize and sequence potential investment options in water resources management and development at the regional scale taking into account their economic, social and environmental implications as well as cumulative impacts. For this purpose, several tools were developed including the water resources planning model and the NEL Basin Planning Model (combining economic modeling). The process adopted comprise of conducting situation analysis followed by scenario development and analysis using NEL Planning and Economic Models, and finally development of investment strategy and action plan for the NEL region. Some of the key messages that came out included - that there is a significant increment in irrigation area (supported by supplemental storage reservoirs), for the selected optimal scenario, with very small impact on river outflow from the NEL region; and implementing this would greatly improve regional food security. Supplementary irrigation has a significant impact in the Sudd area in dry years requiring specific project-wise environmental assessment and mitigation measures. Another finding was that the potential increment in energy generation for the selected optimal scenario is an important ingredient in socio-economic development (improved access to power, small scale industries, low cost power, employment opportunities, etc. Contribution to regional integration was another key finding since power generation and food production is not evenly distributed across the region with opportunities for trade and cooperation.

All models are wrong and some are useful

Economically optimal hydropower development trajectories, by Prof. Kenneth Strzepek (MIT), USA

Prof. Kenneth Strzepek, Research Scientist at MIT, UN University and Univ. of Colorado, USA, introduced the application of the concept of the mid-fidelity screening model to come up with flexible economically optimal hydropower development trajectories based on examples

from Investment Model for Planning Ethiopian Nile Development, Egypt's hydropower generation and South Africa's power supply options. This approach supports improved planning and decision making when large variability exist. Examples cited for power generation include: Electricity generation and GDP growth, relative costs of hydropower versus other forms of renewable resources, economic policies such as discount factors, balancing daily/seasonal power demands; impact of Climate Change on hydropower generation, new oil discoveries, carbon taxes on fossil fuels, global oil price changes, variation of electricity prices, demand changes, and existence of power pools as a factor to reduce costs. The lessons learnt for the Nile are: Electricity is an important ingredient to economic development; In light of capital costs and growing discovery of fossil fuel resources: Fossil electricity generation for Africa is a financial option unless carbon emissions are taken into account; Seasonal to decadal variability of stream flow provides reliability issues for large scale hydropower; Hydropower can play a key role within a mixed based national and regional electricity grids; Regional power pools are mechanisms to increase reliability of hydropower and other renewables; and Africa-wide power trade among power pools can help to provide an increased reliability of Africa's hydropower systems.

Summary of Discussions

- Financing of power projects;
- Investment is still low in hydropower investment when compared to opportunities in the region;
- The fast growing energy demand and limited hydropower potential to meet the emerging demand;
- Coordination and collaboration at regional levels;
- Inadequate institutional capacity;
- Unavailability of reliable data;
- Climate change: uncertainties in development planning (demand, price, data, etc)

Summary of Main Points and Recommendations

- Energy Cooperation is key for regional sustainable development
- Transboundary power transmission interconnections be strengthened
- Mobilize resources to exploit existing potentialities
- Modelling development needs to work with policy and decision makers, and
- Complementarity of hydro with other energy resources needs to be considered.

Questions not felt fully addressed by the Session include: a) cost of hydropower development compared with other energy sources considering externalities and b) how to mobilize funds for investment.

Session VII - Exploring Possible Futures for the Nile



Participants during Session VII. Exploring Possible Futures for the Nile

Session overview: The session sets the scene for dialogue on possible and desirable futures of the Nile Basin, and on how we can achieve the future we want. Out of the three presentations, the first focussed on the science of scenario construction as a means for stakeholder engagement and policy planning. This was followed by two presentations, one by NBI and the second by Nile Basin Discourse (NBD), on results of recent scenario construction exercises for the Nile.

How can scenario building inform decision making, by Dr. Bert Enserink, TU Delft

The first presentation was by Dr. Ir. Bert Enserink, associate professor at Delft University of Technology, The Netherlands. His presentation was an introduction to the Session and focused on the science of scenario construction as a means for policy planning that support countries to prepare for unforeseen events through stakeholder participatory approaches.

Scenario building is expected to help countries think about what they can do to alter their policies and strategies in such a way that they will reach the objectives of equitable and sustainable future despite the changes in the environment.

Scenarios are stories about possible futures; not just stories though, but carefully designed and detailed stories made according to a well-described scientific method, which allows us to depict a number of plausible stories of possible futures.

The Nile Basin in 2024, by Dorothy Kaggwa, NBI

Ms Dorothy Kaggwa, Head of Strategic Planning and Management at Nile-SEC presented the Scenario for Nile cooperation 2024. These scenarios were developed by a multidisciplinary group of stakeholders. These were:

- **Rise of the Rest scenario:** - limited funding for NBI institutions, emphasis on development needs with cooperative spirit, challenges at national level. IGAD and other regional institutions rise up to fill gaps.... dealing with pockets of the Nile Basin-specific issues and places...development ok but overall NB integrity compromised.
- **The One-Nile scenario:** - NBI has funds, stronger, could steer better the NB process, development at national level going on, increased pressure on land and water-basin wide coordination, optimal basin development, increased national funding, countries appreciating, ... effective, spirit-ok.
- **National Focus/Pride-COLD Nile scenario:** - No good will----- less and less cooperative spirits, NBI has funds, institutions maintained but countries wrong-focused/self-focused--- we see issue based negotiations rather than basin wide perspective ...NBI institutions focus on One Nile will be undermined and lost.
- **NO-Name Scenario (The Hague Scenario):** - The National and basin states focusing on national development goals, no spirit of cooperation, weak institution, national development agendas dominating,increased tension and conflict.....the Nile cooperation slowly disintegrating...the NBI platform little effectivelimited main driving forces for the scenarios (sustained) political commitment; (sustainable) funding.

While the scenario building exercise did not attempt to resolve any outstanding issues, it stimulated debate, promoted mutual understanding and built consensus on what Nile cooperation scenarios could look like 10 years from now.

The Nile Basin in 2050, by Abby Onencan, Nile Basin Discourse

The third presentation in this Session was a follow-on of the preceding presentation and focused on Scenario development for the Nile cooperation by 2050. Four plausible scenarios were developed using a story line approach through a stakeholder participative manner. The paper was presented by, Ms Abby Onencan, Board Member of NBD and researcher at Delft Univ. of Technology, The Netherlands. The conclusions were that scenarios in the form of stories proved to be an effective tool in contributing to strategic foresight on benefit sharing. In addition, the benefit sharing principle was found to be a feasible approach to effectively manage Nile Basin water resources amidst complexity, scarcity and deep uncertainty. The scenarios communicated a consistent plausible story on the danger of not recognizing or giving priority to the less tangible benefits like a healthy ecosystem. Further work on scenario building will entail analyzing the uptake of the scenarios to resolve deadlocks and enhance cooperation through benefit sharing.

The political commitment to Nile Basin cooperation is TOTAL!

Scenarios show that cooperation is a prerequisite for sustainable Nile Basin management and development

Summary of Discussions

- Sustaining the political commitment within a changing context?
- How NBI is prepared to demonstrate effectiveness of development resources?

Summary of Main Points and Recommendations

- Although we don't know how the future would unfold, we need to be prepared!
- Scenarios are the means to explore possible futures and can be used to assess the robustness of policies.
- Build on strengths by addressing challenges to ensure desired futures.
- Scenarios show that cooperation is a prerequisite for sustainable Nile basin management and development



Prof. Seifeldin H. Abdalla, Nile-TAC Chair, The Sudan

Session overview: The session discussed the challenges and prospects of moving towards a basin wide approach in development planning in the Nile basin. Short input presentations on the concrete benefits of cooperative development planning and the risks that fragmented planning can pose on achieving development objectives formed the basis for a panel discussion with seven panelists.

Benefits of transboundary cooperation - broader perspective (peace, stability, trust, ..); By Ms. Dorothy Kagwa

The first panelist was Ms. Dorothy Kagwa, Head Strategic Planning and Management at NBI-SEC whose discussion was on the topic of benefits of trans-boundary cooperation - the broader perspective. She highlighted the range of socio-economic, environmental, social capacity building and improved water management that could be garnered through cooperation. She however, emphasized that the benefits of cooperation should be convincingly communicated.

Integrating regional and national plans for water, food and energy security - lessons from southern Africa, by Prof. Mike Muller

The second panelist was Professor Mike Muller, Visiting Adjunct Prof. at the Univ. of the Witwatersrand and Commissioner of the first National Planning Commission, South Africa. His discussion focused on planning for water, food and energy security with some experiences from Southern Africa. Prof Muller posited that water centered development plans should be made for political

geographies and not for river basins to be helpful. Citing Southern Africa's experience, he further highlighted that hydro-supportive approaches are effective where they engage water using sectors providing sound technical basis, and inform inter-sectoral national and regional development.

Basin wide power development and integration: plans and status, by Dr. Humphrey Ndigwa, ex-Project Manager, RPTP

Dr. Humphrey Ndigwa, Power & Energy Specialist, AfDB, introduced the topic of regional power transmission grid integration and joint planning. He highlighted that regional grid integration result in significant reduction in the cost of electricity and that power interconnectors are generally self-financing. He maintains that regional power infrastructure projects have complex financing, implementation and coordination structures. However, where the challenges are overcome, regional power infrastructure projects can be very rewarding and binding the cooperating countries in economic interests.

Water is not at the center of development, water supports development.

NBI investment planning in the Nile Equatorial Lakes Region, by Emmanuel Olet, NBI

Engineer Emmanuel Olet - Program Officer NELSAP-CU's presentation dwelt with the Multi-sector Investment Opportunities Analysis which had the objective to develop a regional water investment strategy for the NEL region

that broadly supports socio-economic development, poverty reduction, and the reversal of environmental degradation. The study contributes to the knowledge base, identifies potential regional investment options, prioritizes and sequences potential investments. There are however constraints in accelerating regional investment infrastructure development in NEL region. These include inadequate formal legal and institutional structure among the NEL member states, geographic diversity and asymmetric distribution of costs and benefits and massive financing requirements.

National development planning and the Nile basin - a basin manager's perspective, by Dr. Abdulkarim Seid, NBI

Dr Abdulkarim Seid, of NBI-Secretariat introduced the concept of a "basin-manager" as a neutral player that endeavors to maximize the net benefits from allocation of water to various uses, the environment taken as one water user. He put forward four arguments to support this view, namely: supply and demand from basin-wide perspective, efficient water allocation, (to maximize net benefit system-wide), coordinate measures for disaster mitigation and preparedness, and environmental sustainability.

Summary of Discussions

Prof. Sefeldin Abdalla, Nile-TAC Chair highlighted that the desire (intention) for cooperation is not the question any more but how to strengthen it. Promoting cooperation requires several pillars to be in place: working on critical issues and challenges, converting negative standpoints into positive perception and (all inclusive) cooperative development, management, building on the concept of complementarity, the facts related to competitive advantages, and principles of sharing mutual benefits.

Mr. Gedion Asfaw, Ex. Regional Project Manager, Nile Environmental Action project, pointed out that discussions and consultations on specific projects of trans-boundary nature can feed into and strengthen the entire basin cooperation; e.g. Ethiopia, Sudan and Egypt on-going panel and committee's dialogue on GERD.

Summary of Main Points and Recommendations

- In a complex basin such as the Nile where the livelihood and the welfare of population depends on the shared water and other resources, cooperation is not an option rather a must, and should be inclusive. However, cooperation is greatly based on willingness and commitment of the riparian countries. Its sustainability can be realized only if countries are really convinced that there are more benefits to be yielded. In case of unwillingness, cooperation will come, but through the cost and risk of no cooperation. We therefore have to work hard toward attaining genuine cooperation, produce tangible results on the ground, and increase cooperation visibility. Involvement of all stakeholders in the planning process and exploring all opportunities for cooperation is essential. Political commitment from riparian countries and program support by development partners can ensure sustainable cooperation.
- Benefits of cooperation must outweigh the risks of no cooperation.
- Resilience of the cooperation process (framework) should be emphasized. This requires robust commitment and engagement by all member states.
- Sustainable development happens through effective coordination.

Session IX: Multi-level Nile Basin Governance - What next for legal, institutional and policy frameworks? Sub-theme: Transboundary water governance



Head Table Session IX

Session overview: The session discussed the role of multi-level water governance for moving forward in Nile Cooperation. Short input presentations on the role of international and regional legal agreements, joint policy frameworks and the role of (sub-) basin organizations formed the basis for a panel discussion.

Cooperation is a long process,
requires patience.

Challenges Facing Nile Transboundary Water Cooperation, by Prof. Dr. Abdalla Abdelsalam Ahmed, UNESCO Chair in Water Resources, Sudan

Prof. Dr. Abdalla Abdelsalam Ahmed, Director General, UNESCO Chair in Water Resources, Sudan- focused his intervention on challenges facing Nile trans-boundary water cooperation. He highlighted the institutional evolution of cooperation on the Nile since 1967 to the establishment of the NBI in 1999. He highlighted a number of challenges including impacts of population growth, climate change, natural resource degradation, institutional inadequacies for water management, conflicts, natural disasters, financial limitations, and technological (in) capability. He posited that the main challenge that faces the Nile countries is how to augment the flow of the Nile River to meet the increasing demands. He recommended a number of actions including: creation of links among country institutions, enhanced data and information sharing, developing alternative energy sources, enhancing cooperation in the management of natural resources using the relative advantages based on the IWRM, creation of permanent joint commission to coordinate cooperation, establish trust fund of the NB projects, capacity building - important for sustainable management of the water resources.

As a way forward he suggested that the spirit of cooperation should be nurtured and that benefits be

shared and not water. By way of overcoming the deadlock of the CFA, he suggested that Nile-SEC organizes (up to 3) workshops to discuss the CFA.

Building Sustainable Transboundary Cooperation in the Nile Basin: The Contribution of the UNWC to the Nile River Basin Cooperative Framework Agreement, Dr. Musa Mohammed Abseno, Ethiopia

Dr. Musa Mohammed Abseno, Independent Consultant on International Water Law and Policy, Ethiopia.

His presentation focused on building sustainable transboundary cooperation in the Nile Basin: - the Contribution of the UNWC to the Nile River Basin Cooperative Framework Agreement.

He argued that the Convention has helped narrow down the rift between upstream and downstream riparian countries on a number of substantive and procedural issues. The methodology used in support of this argument, was by examining the content of the Nile River Basin Cooperative Framework Agreement (CFA) vis-à-vis basic principles of the UNWC and to draw findings exhibiting the significance of the rules of the Convention in resolving some seemingly intractable transboundary water disputes in one of the world's largest rivers, the Nile. The article then made recommendations for strengthening the applicability of the Convention as an emerging treatise.

He recommended that lack of awareness of the UNWC must be properly addressed with a wide range of stakeholder involvement. He further recommended that the relationship between the UNWC and CFA should be used to dispel existing fears of the ratification of the CFA and accession of the UNWC and that the NB Countries could take advantage of the influence of the principle of the UNWC on the CFA in order to strengthen the ratification of the CFA.

Policy Framework for Nile Basin Sustainable Management and Development, by Eng. Teferra Beyene, NBI

Eng. Teferra Beyene, Senior Advisor to the NBI Executive Director - focused his input presentation on policy framework for the Nile Basin sustainable management and development. He highlighted the Nile Basin's experience of steady growth in hydraulic infrastructure resulting in increased storage capacities and hence changes in the hydrologic regime. Most of the new water infrastructure will be built in the upstream parts of the basin, which have very weak infrastructure base for meeting growing demands for energy, food and water.

Given the transboundary nature of the Nile, possible effects of changes in hydrologic regime can only be addressed through cross-border cooperation. Collaboration between the riparian countries is needed to optimize system-wide plans for water resources development, have agreed transboundary policies, for instance, on minimum flows, water quality standards, reservoir release rules, acceptable impact levels, and many more. This is needed to develop and manage the water resources of the Nile Basin in a sustainable manner. He further highlighted the range of policies and strategies developed by NBI that included the Nile Basin Sustainability Framework (NBSF), Environmental and Social Policy, Wetland Strategy, Climate Change Strategy, the NBI Information Disclosure Policy and few other strategies and guidelines.

The place of sub-basin organizations in the Nile Basin Governance Framework, by Prof. Albert Mumma, Kenya

Given that the Cooperative Framework Agreement is not yet in place, issues highlighted were on the harmonization of national vs. regional (development) planning and the place of transboundary policies.

CFA is the best framework for sustainable development

Prof. Albert Mumma, Assoc. Prof University of Nairobi, made a short input presentation on the topic: the role of sub-basin organizations in the Nile Basin Governance structure. This presentation examined the role/ place of sub-basin organizations in the Nile Basin Cooperative Framework. It argued that the Nile Basin Cooperative Framework makes provision for the concept of subsidiarity, creation of sub-basin organizations and the means to address possible conflict in the expression of subsidiarity.

Nevertheless, he cautioned that if duplication, competition, wastage of resources and the potential for institutional rivalry and conflict are to be avoided, clarity in regard to the respective mandates of Nile Basin Cooperative Framework and the sub-basin cooperative frameworks, and the inter-linkages between the two frameworks need to be developed and built into the design of the sub-basin cooperative frameworks. The paper then examined the proposed cooperative frameworks within the East African Community region as a case study on how this issue is being approached in that Region.

There is a tendency for repetition and duplication of mandates of the different institutions; there is need for cooperative agreements

Summary of Discussions

There were remarks from other panelists and from the floor. The following summarizes these interventions:

Prof. Khroda:

- We intend to use today's toolbox to solve future problems. Need to understand the challenges into the future. Need to be open to new ideas.
- Reflection on institutions: Politics of subsidiarity is as good as the political good will in the countries. There is a multiplicity of institutions dealing with water. These institutions may not even share information.
- The time to move forward is now. If not now, then we shall have lost decades.

Eng. Futakamba Mbogo

- What has been our SWOT? There are largely plenty of opportunities. Need to focus on the benefit sharing. These include physical, infrastructure and knowledge to the benefit of the countries. Look at harmonization of policies and protocols. Need to plan together. There is need for centrality in our planning. With the sharing of knowledge the negotiation becomes easier.

Ms Getrude Ngabirano:

- There is an interrelationship of all levels.

Summary of Main Points and Recommendations

- The growing demands for water encourage cooperation
- Focus on areas that bring people together
- Capacity building is important for sustainable management of the water resources
- Engagement and expansion of dialogue, seeking common ground
- Create links among related institutions
- Raise awareness about the CFA and the UNWC.

Open questions: During the discussion, the following issues required further insight: With the planned hydraulic structures, how will the hydrologic regime change? And what are implications to related sectors/users? And how can sustainability be ensured?

Take home messages: The institutional, legal and policy regimes are critical for the sustainable management and development of the Nile Basin water resources



Participants interacting with the Panel



Head Table Session X L-R: Dr. John Kabayo, IGAD, Dr. Canisius Kanangire, LVBC, Dr. Callist Tindimugaya, Nile-TAC member Uganda, Mr. Patrick Safari, Regional Coordinator GWP EA

Session overview: The Nile Basin Initiative is an intergovernmental partnership whose member states are - in various compositions - also members of the regional economic communities (RECs) that share parts of the basin. The session explored how NBI's agenda complements the regional integration agenda particularly in the areas of water, food and energy security in the realms of infrastructure development, power- and agricultural trade and transboundary environmental management. Ways ahead to enhance synergies and cooperation amongst the organizations were discussed.

NBI in the regional integration agenda - areas of synergy with NBI's basin program, by NBI Executive Director

Mr John R. Nyaoro focused his intervention on the topic: NBI in the regional integration agenda-areas of synergy with NBI's basin program.

He highlighted that the key functions and mandate of NBI include but are not limited to:

- Facilitating cooperation with the support to Nile Governance (Nile COM and Nile TAC)
- Diplomatic engagement with the countries through donor forums and roundtable, Nile Basin Development Forum for exchange of views and resources mobilizations towards regional cooperation
- Building platform of cooperation and dialogue by strengthening capacities, promoting the use of shared resources in a cooperative and sustainable manner

- Supporting scientific dialogues through NBDF with the aim of building cooperation in the region
- Strengthening river basin monitoring and management
- Water resources development with preparation of multi-country development water related projects with a joint planning

He expounded that the NBI being an inclusive regional platform for water resources management and development has several functions related to or overlapping with other regional organizations such as the IGAD water resources program and HYCOS, the EAC's LVBC and EAPP Regional Interconnection Program. These organizations such as IGAD, COMESA, EAC, SADC comprise the same member countries. Thus, efforts shall be made to explore possible areas of synergy between NBI and these organizations to ensure maximum effectiveness of their human and financial resources through information, tools and support systems' sharing, collaboration on research and integrated approaches and joint strategies for resource mobilization.

The drought resilience agenda in the IGAD region; by Dr. John Kabayo, IGAD

The drought resilience agenda in the IGAD region was a topic selected by Dr John Kabayo, IGAD. An overview of the Drought Disaster Resilience and Sustainability Initiative (IDDRSI) set up following the Nairobi summit of 2011 was presented. From this initiative the lessons on regional integration shared included:

- A Platform Coordination Unit with an institutional arrangement led and coordinated by IGAD was set up with a common framework, a Regional IDDRSI strategy that was translated into country programming and strategy/policy papers. Each country to develop an annual action plan and all countries required to work in an integrated and coordinated manner.
- Regional activities and programs on shared water resources were jointly prepared and a coordinated approach used for resource mobilization.

There was regional consensus and goodwill on the approach aiming to strengthen the resilience of countries with an institutional mechanism headed by IGAD which monitors implementation.

Transboundary water management in the Lake Victoria Basin under LVBC/EAC, by Dr. Canisius Kanangire, LVBC

If you walk alone, you can reach faster, but if you want to reach far, walk with others...

Transboundary water management in the Lake Victoria Basin under the LVBC/EAC was the topic of intervention by Dr. Canisius Kanangire Executive Secretary, LVBC.

EAC being a Regional Economic Community (REC) has set up the Lake Victoria Basin Commission as a specialized institution with the mandate of coordinating sustainable development of the Lake Victoria Basin with a wide scope including environment conservation, trade and livelihoods. Different initiatives are in place in the region to address ecosystems and livelihood restoration as well as water supply and sanitation, regional planning for water resources management and addressing Climate Change. LVBC has conducted several actions in these areas including policy harmonization, water effluent standards definition, water hyacinth and sustainable catchment management as well as developing infrastructure on water supply and sanitation, transportation and multipurpose dams for improved food and energy development. With regard to the Nile Basin Initiative, the Lake Victoria forms the head waters of the Nile River hence the links between the two organizations are natural since they share significant transboundary ecosystems. Dr. Kanangire highlighted that there is space for synergies with other regional organizations especially with regards to water data information, joint implementation and joint exploitation of skills and expertise.

Enhancing Partnership for Transboundary Water Resources Management in the Nile: Experiences from GWP Eastern Africa, by Mr. Patrick Safari, GWP

Enhancing partnership for transboundary water resources management in the Nile was the topic discussed by Mr. Patrick Safari, Regional Co-ordinator, GWP Eastern Africa. The Global Water Partnership is a neutral multi stakeholder platform that operates in 165 countries, and works with more than 37% of NGOs. The partnership has a strong knowledge base in IWRM and provides for inclusive dialogue, full participation for all, joint planning and water monitoring.

An overview of several programs conducted through the AMCOW in different regions was presented highlighting the integrated approach used by Global Water Partnership with the participation of all water users including the private sector into the planning towards common goals.

Dr. M. Msuya, Tanzania, highlighted the process of building the Nile Basin as a place for Unity and Integration. NBI is up to now a transitional arrangement that allows the cooperative river basin organization to be put in place with the required Institutional and Legal Framework. Regional organizations such as the LVBC can share experiences on the process by which they were established. There is a need to establish a solid coordination and collaborating mechanism and define the mechanisms by which this transition period terminates and the CFA comes into effect.

Summary of Discussions

During the discussion, clarifications were sought on the approach to be used for integrating the existing regional organizations with the NBI and the methodology used to address the risks of overlapping mandates of the different organizations for efficient management of the shared resources.

It was noted that the NBI has taken the lead in building partnership with existing regional organizations through specific memorandum of understanding (such as with LVBC) and these partnerships can become more effective through a negotiated protocol for integration while waiting for the CFA to become operational. This protocol shall focus on specific comparative advantages of each institution.

It was suggested that the Nile should be viewed as a bridge for cooperation and not a source of conflict. The NBI should be mandated to institute dialogue between Egypt and Ethiopia as all countries need to develop using the waters in a rational and fair manner. It is recommended that the NBI facilitates dialogue between the two countries so that they can devise ways of reducing negative impacts and ensure regional integration.

Summary of Main Points and Recommendations

- Long lasting partnership between regional organizations shall be based on specific functions, mandate and comparative advantage, the regional integration and synergy shall be guided by defined purposes and existing areas for synergies on collaboration, integration, information sharing, strategic planning and resources mobilization shall be strengthened.
- More attention shall be given to involve local governments as key players in water resources management and to invest in building their capacities in order for them to play their rightful role in management and development of natural resources.
- There shall be clear mechanisms for joint planning of regional organizations in order to avoid overlapping, ensure efficient use of technical and financial resources including the planning tools in place.

Open questions:

Challenges remain on how to shorten the duration of the transition status of the Nile Basin Initiative. It was noted that significant steps were being taken by countries and it is expected that the CFA will be soon ratified by more countries.



Mr Meraji Musuya, Tanzania.

Take Home messages

- **Regional integration** is possible/the way forward and should be accelerated through the formulation of a concrete cooperating mechanism. (However it can already commence immediately through existing areas of cooperation on information and data sharing; harmonization of regional policies; regional planning and joint implementation of projects).
- There is a need for **lasting partnerships** between regional organizations based on current mandates and comparative advantage. In that regard the comparative advantage of each regional organization should be appraised.

Session XI: Hydro-Diplomacy for the Nile - converging political and technical tracks of cooperation. Sub-theme: Hydro-Diplomacy in transboundary cooperation



L-R: Hon. Prof. Judi Wakhungu, Cabinet Secretary, Ministry of Environment, Water and Natural Resources-Kenya, H.E. Mutaz Musa Abdalla Salim, Nile-COM Chair, The Sudan, Hon. Jemma Nunu Kumba, Minister of Electricity, Water and Irrigation, South Sudan, H.E. Alemayehu Tegenu, Minister of Water and Energy, Federal Republic of Ethiopia, Mr. Gustavo Saltiel, Program Manager-Nile Program Coordinator at the World Bank and John Rao Nyaoro, HSC, Executive Director, NBI

Session Overview

The session discussed the prospects of hydro-diplomacy in the Nile Basin and how NBI and partners can support the diplomatic process through enhancing the links between the political and the technical track of cooperation. After an introduction on the concept of hydro-diplomacy, short input presentations on lessons from other regions, and the role of decision makers, the technical community and civil society in the hydro-diplomatic process formed the basis for the panel discussion.

Dr. Anton Earle, from SIWI provided an introduction into the concept of hydro-diplomacy. He brought up the aspects of state sovereignty in a trans-boundary water management context versus the traditional conceptualization of hydro-diplomacy and the international legal framework available to address them.

This presentation highlighted the water diplomacy tracks I, II and III and their interrelationship which can be utilized to promote social inclusion, dialogue and build trust between individuals and private parties at all levels. Parallel diplomacy may be conducted between state actors, subnational entities, municipalities, local authorities depending on a country's administration. The presentation also noted that the role of cities is becoming more and more important, due to rapid urbanization.

The contingent nature of transboundary water issues: How do we identify binding constraints and enabling conditions for actionable outcomes? by Dr. Shafiqul Islam, Tufts University, USA

Dr Shafiqul Islam, Professor of Civil and Environmental Engineering and Water Diplomacy at Tufts University, USA gave an outline presentation on the topic. This

presentation proposed how to converge technical and knowledge domains in order to address the complexity of international waters management. It touched on the problematics of transboundary waters and the variables involved and the uncertainty of scientific, policy and political choices. The presenter proposed the need to commit capable mediators to find actual implementable solutions and define mutual interests and gain for all parties.

A question was posed on how to ensure necessary and sufficient conditions are in place to solve the complexity? The presenter explained that the different stakeholders of the transboundary waters determine the sort of uncertainty and integration (knowledge domain) and equity (political domain).

**Without political commitment
there cannot be cooperation**

The Rise of Hydro-Diplomacy - Strengthening Foreign Policy for Transboundary Waters, by Mr. Alexander Carius, Adelphi

The rise of Hydro-Diplomacy - strengthening foreign policy for transboundary waters was the topic of short in-put presentation by Mr. Alexander Carius, Managing Director of Adelphi, Germany. The issue of hydro-diplomacy in shared waters management is becoming more and more important. Hydro-diplomacy complements transboundary waters conflict resolution in addition to providing technical solutions. It advocates that it is not enough to focus on the technical aspects of shared waters.

The presentation highlighted that technical cooperation doesn't necessarily translate into political cooperation because it needs political capacity with technical

knowledge on water affairs. The presentation suggests not to keep politics out but to include it into the technical solution and goes on to suggest that diplomats are typically better at diplomacy issues than development practitioners - hence their usefulness in these processes. In this regard, diplomats should also be included and used to intervene in international water crises and other international water affairs.

An observation was made as to whether the river basins are mandated and able to deal with diplomacy and political dimensions?

Key points addressed:

- Transboundary water resources agencies should combine both low and high politics and should connect actors with decision makers to build the ground for lateral and multilateral activities; this would improve analytical/knowledge systems, traditional and multilateral settings;
- Improving synergies of high and low politics;
- Advocate for individual and institutional capacity building in foreign affairs' offices on issues of transboundary water management and benefit sharing, and hydro-diplomacy for conflict resolution - in order to enable diplomats deal with both technical and political negotiations.

The New Nile Cooperation: A Hydro-Mentality Approach, by Mr. Wondwosen Michago Seide, IGAD

- The New Nile Cooperation: a Hydro-Mentality Approach was a topic selected and introduced by Mr Wondwosen Michago Seide, Water Resources Expert at IGAD. This presentation analyzed the Nile Cooperation through a hydro-mentality approach using the mindset of the Nile stakeholders - Egypt and Ethiopia in particular- and depicting the relationship between mentality and politics. It posits that water has memory; and the energy of water can shift depending on the energy sent out. The presentation advanced that "the way we speak of/to the water also matters", therefore, the way we interact with the Nile determines negotiations on the Nile. It suggests that the old, frozen and traditional approach that is "State-centric, hydro-hegemonic, hydro-politics, conflict & cooperation" should change in order to bring in a new energy into the discussions on the Nile and embrace 'Beyond the River' thinking including "state and popular perceptions, official & unofficial memory, collective and individual memory".

Knowledge Networks as a means for integrated capacity development in Transboundary River Basins, by Dr. Amel M. Azab, NBCBN

Dr Amel M. Azab, Manager, NBCBN gave a presentation on the topic: Knowledge Networks as a means for integrated

capacity development in Transboundary River Basins. Capacity Building is of paramount importance for the Nile Basin; there is a big need for capacity building and knowledge management for the Nile Cooperation to be a success. In this regard, networks can add value to capacity building by providing forums to discuss transboundary waters at both technical and political levels. The role of networks in advancing cooperation on the Nile was highlighted. It was noted that this required collaborating with existing networks around the world for learning lessons, sharing experiences, information and communication on what works and doesn't work in the Nile Basin. There is also a need to synergize coordination of networks. This will prevent networks from re-inventing the wheel and give room for innovation as well as create effective platforms for technical collaboration. Future niche of the Nile Basin is in capacity building and in that regard the establishment of a capacity building network of the Nile Basin hosted by universities and research centers.

Summary of Discussions

In his intervention, one of the panelists: Ambassador Ibrahim Idris of Min of Foreign Affairs, Ethiopia, provided an overview of the Nile Basin from the creation of the NBI in 1999 to the present, - its mission, vision and mandate. He highlighted the importance of the Cooperative Framework Agreement and the way it can be used as a pathway for the effective management of transboundary issues. He added that the CFA being a product of many years of work, is designed to strengthen cooperation of the Nile Basin countries and has so far been signed by 6 countries, ratified by 2 with more expected to come on board.

Mr Achilles Byaruhanga, Board Chairperson of the NBD's intervention highlighted that hydro-diplomacy is interesting to the Nile Basin Discourse and its parties; the presentation observed the importance of the Nile Basin to local communities, who are mainly represented through the NBD. The presenter advanced that while the civil society was ready to give its contribution to the Nile Basin, it also has the responsibility and mandate to demand transparency and accountability from member states.

Summary of Main Points and Recommendations

- More coherence between diplomatic dialogue and technical cooperation
- Hydro-diplomacy should be based on horizontal and vertical linkages (multi-level stakeholder dialogues)
- Hydro-diplomacy is not a linear process but has to adapt to uncertainties.

Session XII: Sustainable financing for institutions, information and infrastructure. Sub-theme: Financing transboundary cooperation



Participants at Session XII: Sustainable financing for institutions, information and infrastructure.

Session overview: The session discussed - established new ways of financing the NBI as a platform for cooperation, as well as joint investments in institutions, information and infrastructure in the basin. Input presentations on lessons from NBI financing and on examples of RBO financing in other basins formed the basis for a panel discussion.

The culture in NBI for waiting for grant funding alone should be changed;
Financing projects or getting finances from financing sources is a priority

Financing of the Nile Basin Initiative: lessons and future directions for institutional and infrastructure development funding, by Ms. Dorothy Kagwa, NBI

- A number of lessons were learnt during the 10 year period of NBTF informing the design of the NBI resource mobilization strategy;
- How to finance NBI in the future (countries, development partners, marketing NBI for fee, cost recovery on NBI facilitated projects, Internal NBI Trust fund);
- Excellent technical knowledge and expertise in management of water resources shared with the development partners.

Key Findings

- Long term, predictable and flexible funding is critical to advancing cooperation;
- Trust Fund reduces transaction cost, makes reporting and monitoring easier, but value for money need to be

checked when associating with a development partner for the coordination and management a Trust Fund;

- Dependence on external fund delayed effort to cover core cost by the countries.

Institutionalization of Transboundary Cooperation

by Dr Wubalem Fekade, NBI

- Building and nurturing cooperation facilitating norms, values and embedding them in NBI is a task that is critical to sustain NB cooperation;
- When transboundary cooperation becomes institutionalized within NBI, the financing risks (reputational risks, political risks, social risks, environmental risks) reduce.

Key Findings

- Institutionalization of norms of cooperation, water resource management, respecting the livelihood supporting ecosystem, increases the likelihood of financing Nile Basin cooperation.

Financing Transboundary River Basin Management

by Dr Susanne Schmeier, GIZ

- Insufficient funding can lead to disruptions in the cooperation process and the insufficient implementation of water resource development projects, thus hampering the overall sustainable development of the basin;
- Sources of RBO finance differ from country contributions (for corporate services - equal cost sharing, key based cost sharing) to external financial (technical assistance, loan, grants), to other sources (taxes, fees for services) or resources.

Key Findings

- Reliable, sufficient and sustainable funding is a prerequisite for effective institutionalized river basin management;
- Member countries' contributions are both crucial for the long-term financial sustainability of RBO, and is an indicator for their commitment to cooperative water resources management;
- Countries should live up to their commitment in terms of contribution payment;
- Equal cost sharing, key based cost sharing (territory in the basin, GDP or national budgets, population in the basin, flow contributions, benefits from other resources, combined indicators), and ad-hoc/interim solutions (temporary consideration of economic capacity, etc) may be explored;
- NBI need to see the experience of other RBOs.

The Cooperative Multi-sector Investment Program, By Mr. Olivier Cogels, CIWA

- Cooperative multi-sector investment program is a driver for effective transboundary water cooperation.

Key Findings

- Putting cooperative multi-Sector investment program upfront brings increased visibility (one big project for the public) of the benefit of cooperation, attracts potential investors, improves coordination at regional and national levels, makes optimal investment possible, and prevents conflict through enhanced dialogue.
- Investment become possible, and prevents conflict through enhanced dialogue.

African Development Bank's Support in the Water Sector, By Dr Tarik Ahmed; AfDB

- AfDB supported many projects (Shared Vision, Eastern Nile Power Trade Study, Eastern Nile Irrigation & Drainage and Baro-Akobo-Sobat's strategic Social and Environmental Assessment - typically project oriented contributions;
- The major guiding instrument - the African Water Vision 2025 and the political commitments made by the African Ministers' Council on Water.

Key Findings

- AfDB will respond to the question of shrinking resources and increasing demand, focusing on developing effective partnerships;
- The African Natural Resources Centre (ANRC) is an example of commitment of the Bank to continue support for upstream work;

- A change in paradigm is needed;
- The upstream work is important as the infrastructure itself; think of something new - the idea of the ANRC.

Summary of Discussions

- There is need to quantify the balance between domestic, external and private funding;
- Sustainability means a lot more beyond financial sustainability;
- Some of the projects had little impact (EWAP), need to gage impacts of completed projects with a view to making complementary actions;
- NBI should be able to generate its own resources including domestic financing (packaging projects, with future benefits);
- Need to review existing approaches/modalities of Nile River Basin governance to guide institutionalization of transboundary cooperation;
- Different sources of financing (countries borrowing, grant) need to be looked; turn the continuum into investment (e.g. Senegal River Basin - 2 dams and navigation through OMVS);
- Countries willingness to borrow for River Basin projects & why this is not used (extensively) as a source for NBI initiated activities beyond power projects);
- Flexibility (cash or in-kind) in country contribution;
- Contribution of taxpayer in the form of e.g. polluter pays principle and use of services;
- The balance between natural resources (renewable) and investment;
- Ensuring sustainable financing for infrastructure programs;
- There is a need to complete quantification of in-kind contributions.

Summary of Main Points and Recommendations

- The culture in NBI for waiting for grant funding alone should be changed;
- Raising finance for new projects from provision of services to on-going projects need to be strengthened;
- The way forward is through sufficient, sustainable and well organized financing, with increased country contribution as a sign of commitment for cooperation and ownership; and with increased project preparation & investment financing from all other sources.



Head Table Session XIII

Session overview: The objective of this session was for high level representatives and stakeholders to: deliberate on the way forward for Nile cooperation, putting the outcomes and recommendations that have emerged over the two days deliberations as a basis for future decision making at the highest level and to renew the commitment of high level decision makers to sustain and advance the cooperation to a higher level.

Dr. Hinrich Thielken, Federal Foreign Office Germany delivered a statement noting that Germany had been supporting NBI for the last 14 years. He further noted that the Nile is a gift to Africa and that basin wide cooperation is key to building consensus on a shared vision. The German cooperation began with a roundtable meeting that was attended by NBI and German Government representatives. The outputs of the German cooperation serve as tool boxes for cooperation. The NBDF is an excellent opportunity for assessing progress in cooperative endeavors and that cooperation is not a choice but a necessity for destiny with each stakeholder taking a part in the process. On knowledge there has been enormous investment and countries need to build capacity based on this. On governance, the ratification of the CFA, this may not be achieved in the near future but hoped that all countries continue to participate fully. On ownership, he hoped that NBI gets to stand on its own feet and Germany welcomes NBI's resolve to meet its institutional costs by 2017.

Ms. Eileen Burke gave remarks on behalf of the World Bank. She noted the successful implementation of the Strategic Action Program. She observed that large

investments are being prepared and there is high commitment to take the cooperation forward. The reason the ministers came forward was to fast track development. The World Bank looks forward to continued support in the years to come.

Hon. Dr. Vincent Biruta, Minister of Natural Resources, Rwanda and Nile-COM Member moved a vote of thanks and gratitude to the government and the people of Kenya for the warm hospitality and reception accorded to the delegations. He thanked the Executive Director of the Nile Basin Initiative and all the organizers including the Regional Organizing Committee as well as the National Organizing Committee, all service providers, the Development Partners- Friends of the Nile who have contributed to making the 4th Nile Basin Development Forum a success and to their commendable support to NBI since it was established, to the Nile Basin Member countries for their commitment to Nile Basin Cooperation processes.

Discussion of lessons

- Need to go beyond the theoretical cooperation and to specify the benefits of cooperation and proceed on practical things on the ground;
- NBI delivers what it thinks is useful to the basin. But there is need for feedback or reaction from the basin stakeholders and subject to in- depth analysis so that a second stage of intervention is taken on;
- Need to be proactive in engaging Egypt in moving forward and see how to bring them back to the process;

- The CFA provides for equitable utilization of the water resources. Egypt stands to gain by continuing to participate in the cooperation;
- Communicate effectively the benefits of cooperation;
- Elaborate and communicate the risks of non-cooperation;
- To be known on the ground, there must be something visible results on the ground. For example electricity, irrigation, trade etc.
- NBI can promote peer review and publication of papers as contribution to the Nile Basin countries.
- In order to mitigate risks, NBI has to honestly communicate;
- Awareness raising on the cooperation is important;
- The discourse is engaging mainly the corporate institutions, need to involve non-governmental actors;
- Popularizing and promoting the contributions of NBI at the grassroots is very important and this adds to the strengths of the institution.

Discussion of Emerging issues and way forward;

- Every country has its own policies and programs. Linking these with regional policies is very important;
- Without cooperation there is no chance for sustainable management and development of the shared water resources;

Closing Session

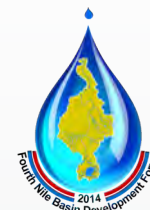


Mr. John Rao Nyaoro, HSC, Executive Director, NBI, H.E. Mutaz Musa Abdalla Salim, Nile-COM Chair, The Sudan, Mrs. Gladys Wakesa, Nile-TAC Member Kenya, Hon. Prof. Ephraim Kamuntu, the NELCOM Chair, H.E. Alemayehu Tegenu, Nile-COM Member The Federal Republic of Ethiopia, Mr. Gustavo Saltiel, Nile Program Manager at the World Bank

The closing session of the 4th Nile Basin Development Forum took place in Mara Hall at the Intercontinental Hotel, in Nairobi Kenya on 7th November 2014. The session was presided over by the Nile-COM Chair H.E. Mutaz Musa Abdalla Salim, who thanked participants for their efforts in the two days forum and noted that the forum objectives had been achieved. The consultations for the 5th Nile Basin Forum will be completed later to take forward the shared ideas.

Hon. Prof. Ephraim Kamuntu, the NELCOM Chair, reiterated the political commitment towards regional integration, peace, security and prosperity of the population. Water is not only a necessity but life. There is need for a legal framework to guide the management of the resource and encouraged the member states to ratify the CFA. NBI was challenged to justify the need for continued support from the development partners.

The declaration of the fourth Nile Basin Development Forum was read by Prof. George Krhoda from Kenya (Please refer to Section 19).



4th Nile Basin Development Forum: Theme: Building Sustainable Trans-boundary Cooperation in a Complex River Basin: Challenges | Lessons | Prospects

Declaration

We, over 450 participants from within and outside the Nile Basin, including 7 members of the Nile Council of Water Ministers, 21 Permanent Secretaries, 18 Nile TAC members, 14 parliamentarians, members of the community of Development Partners, civil society, regional organizations and the Diplomatic Community in Nairobi.

Having participated in and collectively deliberated over a vast range of urgent Nile Basin management and development issues in the 4th Nile Basin Development Forum in Nairobi, Kenya during 6-7 October 2014,

Appreciating the achievements so far made under the NBI, built from unfavorable baseline, in sustaining an all-inclusive institution with national and basin-wide capabilities of water resources management and development and demonstration of the benefits of cooperation on the ground through investments;

Recognizing the immense demand pressures the basin is facing and will face against - a fragile, complex and not fully understood science of the river; against equally complex hydro-political and historical legacies; against limited water resource base in the midst of uncertain Climate Change impact consequences; against the ongoing proliferation of unilaterally planned water resources infrastructure across the basin; against raising corporate and project finance for cooperative water infrastructure implementation

Acknowledging the efforts being made and the need for renewed efforts to bring back the sisterly country of Egypt, the most downstream and the most Nile dependent country, to the NBI family so that it will have improved opportunity to influence the emergence of win-win outcomes through engagement;

Noting that despite the achievements, a lot remains to be done in that - poverty is still endemic in the basin; youth unemployment is a development challenge; poverty-driven continuing degradation of resources and loss of ecosystems is worrisome; the basin is still least economically integrated; there is still the need to

further build water resources management-development capacities; there is still need to understand better Climate Change impacts better; there is need to further expand NBI's stakeholder bases to reach out further to national, international and regional bodies;

Affirming that the NBI is the only cooperation mechanism through which basin challenges and threats can be addressed collectively; affirming that it is only NBI, by its very nature and mandate, that can be the custodian of Nile, able to look beyond political confines of national priorities to mitigate the risks associated with fragmented and nationally focused resource use and thus safeguard the interests of future generations.

Understanding the sense of urgency needed to exploit the window of opportunity, the narrow time slot, we still have to address the impending challenges also emphasizing that basin problems have their own dynamics, and might not tolerate any laid-back decision making before the opportunity is lost!

Considering the foregoing, therefore, we Forum participants:-

I. CALL UPON NILE BASIN GOVERNMENTS TO:

Commit more finance and resources to the NBI so that NBI covers all the operating and program costs on its own. We call on Member Countries to own NBI. NBI, despite the growing country contributions, by and large is still a donor-funded organization, after 15 solid years.

Make regular application of the jointly built Nile Basin Knowledge Resources and capabilities (data and information base and analytic tools) especially at national level and to start exploring - both nationally and jointly - pathways to basin development that accommodate both national priorities and system wide optimization.

Create enabling environments through inter-country investment agreements to promote implementation of jointly prepared inter-country infrastructure projects.

Expediently make NBI a permanent institution by resolving differences and putting in place the agreed legal and institutional framework. Toward this end we urge member countries to work together to bring back the sisterly country of Egypt to the NBI family.

II. CALL UPON DEVELOPMENT PARTNERS (UN System agencies; Multilateral and bilateral funding/financial and cooperation agencies):

To further champion NBI and sustain their assistance to see the full blossoming and take off of the institution they have so long nurtured thru finance, advice, political and technical support.

III. WE CALL ON NATIONAL NILE BASIN MEDIA:

To focus dialogue on the Nile focus on the transboundary and to help the gradual shift of perspective toward viewing Nile issues more as a resource management agenda to be addressed through collective enterprise like the Nile Basin Initiative - and not a battle of lose-lose consequences! We urge owners of national media houses, reporters, journalists and other media professionals to help create a new norm that brings Nile Cooperation to the fore of communication agenda setting.

IV. WE CALL ON THE INTERNATIONAL MEDIA TO:

To embark on more responsible reporting and to cover positive developments surrounding Nile Basin cooperation and to refrain from sensationalizing the issue by making frequent references to Nile Water Wars.

V. WE CALL UPON THE FAITH COMMUNITY, EDUCATORS AND CULTURAL INSTITUTION LEADERS:

To Leverage the best of their norms that encourage mutuality, concern for the other and the neighbor and the environment and support NBI's efforts to foster cooperation and regional peace. We call upon educators across the NB countries to make Nile Basin part of their curricula and civic education to build support among the youth of today who will own the Nile tomorrow.

VI. WE CALL UPON THE PRIVATE SECTOR:

Within the basin and beyond to partner with NBI to responsibly develop the Nile resources by investing their finance, expertise and technology.

VII. WE CALL UPON REGIONAL ORGANIZATIONS:

That work on water to synergize and partner with NBI. NBI, cutting through overlapping mandates of regional organizations that have to do with water - e.g. drought; lakes, hydropower/power, food security), is the organization to which all Nile Basin States belong to collectively address Nile Water Resources issues,

VIII. WE CALL UPON ACADEMIC AND RESEARCH INSTITUTIONS

To collaborate with the NBI to make their water resource related work relevant by informing their teaching and research agenda with priorities of communities, countries and the Nile itself and disseminating their results and findings

We express our sincere thanks to the people and Government of Kenya for their generous hospitality and hosting of the 4th Nile Basin Development Forum.

Nairobi, Kenya, October 7, 2014

Summary of Recommendations

Taking Stock: Lessons Learnt

- It is recommended to establish/strengthen where they exist, a permanent platform for involving universities and research institutions for collaborative work on modeling and NBI's Decision Support System (DSS).
- As data is required for planning and water resources management, there is a need for a rational approach in designing a sustainable basin-wide hydro-meteorological monitoring network, including sediment monitoring, the latter better managed at sub-basin levels.
- Basin planning (Ref to Kagera River Basin) should take into account groundwater resources and appropriate level infrastructure.
- It is recommended that NBI engage EAC/IGAD and other regional pertinent organizations and CSOs.
- There is a need to unpack technical information and enhance the huge demand for communication over basin issues and other resources broadly.
- Energy cooperation is key to regional sustainable development and transboundary power transmission interconnections need to be strengthened; it is recommended to mobilize resources to exploit existing hydropower potentialities, preferably through multi-sector approach.
- Complementarity of hydro with other forms of energy resources needs to be considered.

Looking Into the Future

- In terms of the approach to scenario planning, it is recommended to build on strengths by addressing challenges to ensure desired futures.

What to do next (selective)?

- Recommend for individual and institutional capacity building programs on water management & conflict resolutions - It was felt that some stakeholders may lack capacity in negotiation of trans-boundary issues: water, energy and food security.
- Recommend to have awareness creation programs about the Cooperative Framework Agreement and the United Nations Watercourses Convention (UNWC).
- NBI and member countries should mobilize resources from in-country resources and external funding in the form of grants and borrowings with greater focus on programs such as the Cooperative Multi-Sector Investment Program to enhance NBI's visibility among riparian citizens.

Annex a: Session Co-conveners

UNEP-DHI PARTNERSHIP Centre on Water and Environment



DHI is an independent, international consulting and research organization authorized by the Danish Ministry of Science, Technology and Innovation as an Approved Technological Service Institute (GTS). We offer a wide range of research, consulting and policy services as well as leading edge technologies. DHI's activities are based on the development and application of know-how and advanced technologies within coastal, river, ports and offshore engineering as well as ecology, water resources, urban and industrial water and other areas related to the water environment. DHI is designated as Collaborating Centre for the United Nations Environmental Programme, UNEP, and furthermore as Advisory Centre for the Global Water Partnership. In collaboration with the Nile Basin Initiative (NBI), DHI has developed the Nile Basin Decision Support System (NB DSS) to support river basin planning and management over the basin. DHI together with IWA have now embarked on the GEF/UNEP Flood and Droughts project to develop planning tools and methods addressing floods and droughts under changing climate - delivering results to be used in river basin planning processes and downscaled level for urban and utility managers. See www.dhigroup.com.



The **International Water Management Institute (IWMI)** is a non-profit, scientific research organization focusing on the sustainable use of water and land resources in developing countries. It is headquartered in Colombo, Sri Lanka, with regional offices across Asia and Africa. IWMI works in partnership with governments, civil society and the private sector to develop scalable agricultural water management solutions that have a real impact on poverty reduction, food security and ecosystem health. IWMI is a member of CGIAR, a global research partnership for a food secure future. The CGIAR Research Program on Water, Land and Ecosystems (WLE) is a global research program promoting a new integrated approach to sustainable intensification. A healthy functioning ecosystem is seen as a prerequisite to sustainable agricultural development, resilience of food systems and human well-being. Led by the International Water Management Institute (IWMI), the Program combines the resources of 11 CGIAR centres (IWMI, ICARDA, CIAT, ICRISAT, ICRAF, Biodiversity, CIP, IFPRI, ILRI, IITA, WorldFish), and the United Nations Food and Agriculture Organization (FAO). Find out more: www.iwmi.org



As a federal enterprise, the **Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)** supports the German government in achieving its objectives in the field of international cooperation for sustainable development. GIZ operates throughout Germany and in more than 130 countries worldwide, with registered offices in Bonn and Eschborn. GIZ has 16,510 staff around the globe, almost 70 per cent of whom are employed locally as national personnel. GIZ operates in many fields: economic development and employment promotion; governance and democracy; security, reconstruction, peace building and civil conflict transformation; food security, health and basic education; and environmental protection, resource conservation and climate change mitigation.

On behalf of the German government and other co-funding partners, GIZ is currently implementing programmes that support cooperative water management in more than 15 transboundary river and lake basins across Africa, Asia and South-Eastern Europe. GIZ (before 2011 as GTZ) supports transboundary water cooperation in the Nile Basin since 2002, and provides technical assistance to the water sector in most of the NBI member states. For more information visit: www.giz.de



The Nile Basin Discourse (NBD) is a civil society network with over 940 member and partner organizations within the Nile Basin region. NBD offers a public platform for dialogue, partnership and cooperation among civil society organizations in the Nile Basin. The NBD network is open to all civil society organizations involved in basin resources management and development within the Nile Basin Region to join as either full, associate or honorary members. NBD network provides knowledge and builds capacity to strengthen, evidence-based dialogue of civil society organizations within the Nile Basin region. NBD's networking approach has provided a mechanism for coordinated action and has added value to the work of the Nile Basin Initiative (NBI) and other key development partners. NBD is constantly adapting and exploring new ways to enhance its network movement that meets the needs of an ever-changing world. The new strategy - Empowerment through Participation - defines the unique contribution it makes in attaining sustainable development and highlights the direction to be taken as an organization to best achieve its goals. For the period 2013 - 2016, NBD with support from the Cooperation of International Waterways in Africa (CIWA) is working towards engaging stakeholders in climate change resilience through Strengthening the NBD Secretariat functions, Strengthening Communications and Outreach, and Capacity development of NBD members. Website: www.nilebasindiscourse.org.



The Stockholm International Water Institute (SIWI) is a Stockholm-based policy institute that generates knowledge and informs decision-making towards water wise policy. Founded in 1991, SIWI performs research, builds institutional capacity and provides advisory services in five thematic areas: water governance, transboundary water management, climate change and water, the water-energy-food nexus, and water economics.

Today, SIWI employs 60 staff with a wide-range of professional experience that enables us to form knowledgeable multi-disciplinary teams that are able to address complex, cross-cutting challenges faced by clients and partners from government and business around the world. Through applied research and policy consultation, capacity-building in individuals and institutions, strategic communication to influence private and public sectors, and linking key actors across sectors, SIWI stimulates the development of innovative policies and scientifically based solutions to water-related challenges. Internationally active, politically neutral, and intellectually objective, SIWI welcomes opportunities for collaboration with partners across the world. Website: www.siwi.org.

Since inception in 1944, **the World Bank Group** has expanded from a single institution to a closely associated group of five development institutions. The World Bank provides financial and knowledge resources to its clients, to reach two main goals: to end extreme poverty by 2030 and to boost shared prosperity. The World Bank is a vital source of financial and technical assistance to developing countries around the world. The institution operates as more than a bank in the ordinary sense, as a unique partnership to reduce poverty and support development. Further information about the World Bank can be found at www.worldbank.org.

Since requested by the Nile Water Ministers in 2001, the World Bank has served as lead development partner and administrator of the \$203 million Nile Basin Trust Fund, supporting the Nile Countries in their pursuit of their Shared Vision for the Nile. The ten contributing donors to the NBTf have supported the establishment of the Nile Basin Initiative as a transitional basin organization; in the development of shared data, tools and knowledge for water resources management; and the advancement of a pipeline of over US\$5 billion of development projects in the Nile Basin. Through the Cooperation in International Waters in Africa (CIWA) Program, the World Bank and participating development partners are continuing support to the Nile countries, for programs to strengthen cooperative management and development of international waters in Sub-Saharan Africa, to facilitate sustainable and inclusive growth, climate resilience, and poverty reduction. Further information about the CIWA program is available at <http://www.worldbank.org/en/programs/cooperation-in-international-waters-in-africa>.

Annex b: Conference Programme

DAY 1, Monday 6 th October - Plenary		
9.00-10.30: Opening Session		
Room: Mara Ballroom		
MC: Mr. Chrispine Omondi Juma		
Rapporteur: Mr. Tom Waako		
09:00 Registration		
09:35 Welcome remarks and presentation on Nile Basin Initiative journey, by John Rao Nyaoro, HSC, Executive Director of NBI		
<ul style="list-style-type: none"> • Key Note Address "Sustaining Transboundary Cooperation" by Mr. Gustavo Saltiel, World Bank • Welcome remarks by Hon. Mutaz Musa Abdalla Salim, Minister of Water Resources and Electricity, and Nile-COM Chair, The Sudan • Welcome remarks by Hon. Prof. Judi Wakhungu, Cabinet Secretary for Environment, Water and Natural Resources, and Nile-COM Member, Kenya; invites the Guest of Honour to give an opening speech • Opening speech by the Guest of Honour, and launching of Nile Basin Initiative <i>Flagship Reports</i> • Key Note Address: "The Nile: a Bridge for Unity", by Hon. Prof. Mark James Mwandosya, Tanzania • Key Note Address: "Roles of Analytic Tools and Shared Knowledge base for Transboundary Cooperation" by Dr. Edith Zagona, CADSWES, USA • Introduction to the Forum Program, by MC 		
10.30-11.30: Exhibition; coffee break		
Parallel sessions		
11.30-13.30: Sessions I - III		
Session I - Use of analytic tools and planning frameworks in Water Resources Planning and Management	Session II - Understanding the complex hydrology of the Nile Basin	Session III - The Food-Water Nexus in the Nile Basin
<i>Sub-theme: Knowledge systems & epistemic communities</i>	<i>Sub-Theme: Knowledge systems & epistemic communities</i>	<i>Sub-theme: Water- Energy- Food Security Nexus</i>
Co-convener: DHI	Co-convener: IWMI	Co-convener: GIZ
Format: paper session	Format: paper session	Format: paper session
Room: Mara South	Room: Mara North	Room: Loita
Moderator: Dr. Hesham Abdel Ghany	Moderator: Dr. Mohammed Abdel Aty	Moderator: Dr. Malte Grossmann
Rapporteurs: Dr. Mohsen Al-Arabawy and Mr. Vincent Ssebuggwawo	Rapporteurs: Ms. Azeb Mersha and Mr. Benjamin Ssekamuli	Rapporteurs: Dr. Susanne Schmeier and Mr. Ephrem Getahun
Presenters		
<ol style="list-style-type: none"> 1. <i>A decision support system for integrated water resource management in transboundary river basins</i>, Dr. Abdulkarim Seid, NBI 2. <i>Application of the Nile DSS in the Development of the National Water Resources Strategy for Uganda</i>, Mr. Sowed M. Sewagudde, MWE, Uganda 3. <i>Multipurpose Water Resource Planning and Management Using Nile DSS. Case Study Tana Sub Basin, Ethiopia</i>, Mr. Habtamu Achenefer, Abay Basin Authority, Ethiopia 4. <i>Development of Water Resources Planning Scenarios in the Complex Hydrological System of Eastern Nile Basin</i>, Dr. Ahmadul Hassan, CEGIS, Bangladesh; presented by Dr Yosif Ibrahim, ENTRO 	<ol style="list-style-type: none"> 1. <i>Hydrological monitoring in the Nile basin</i>, Mark Woodbury, Riverside Technology, USA 2. <i>Linking sediment source to sink. Case study: the trans-boundary Blue Nile River</i>, Mr. Amgad Omer, MWRE, Sudan 3. <i>Understanding the Hydrology of the Nile: Mapping Actual Evapo-transpiration for the Nile Basin Countries</i>, Ms. Milly Mbuliro, NBI 4. <i>Climate Change Impact on Variability of Rainfall Intensity in Upper Blue Nile Basin</i>, Mr. Lakemariam Yohannes Worku, National Meteorological Agency, Ethiopia 	<ol style="list-style-type: none"> 1. <i>Food for thought: scenarios for the Nile Basin</i>, by Mr. Bart Hilhorst, Consultant 2. <i>Emerging Agricultural Trade Potentials to Accelerate Water and Food Security</i>, Dr. Hellen Natsu, NBD 3. <i>Harnessing the potential of agricultural water in the Nile Basin through integrated watershed management</i>, Dr. Hezron Mogaka, ASARECA 4. <i>Towards a remote sensing based operational decision support system for agricultural water and crop management in the Gash Delta - Sudan</i>, Mr. Younis Gismalla, Hydraulics Research Center, Sudan 5. <i>The Impact of Climate Change on Crop Productivity in the Eastern Nile Basin of Sudan</i>, Dr. Khalid Biro, Hydraulics Research Center, Sudan
13.30-14.30: Lunch		

Parallel sessions		
14.30-16.30: Sessions IV - VI		
Session IV - Cooperative water development and management	Session V - Nile Discourses: evidence for "One Nile - One Family"?	Session VI - The Water-Energy Nexus in the Nile Basin
<i>Sub-theme: Knowledge systems and epistemic communities</i>	<i>Sub-Theme: Transboundary water governance</i>	<i>Sub-theme: Water-Energy- Food Security Nexus</i>
	Co-convener: Nile Basin Discourse	Co-convener: GIZ
Format: paper session	Format: paper session	Format: paper session
Room: Mara South	Room: Mara North	Room: Loita
Moderator: Dr. Yosif Ibrahim	Moderator: Dr. Hellen Natu	Moderator: Prof. Mike Muller
Rapporteurs: Mr. Peter Kanyi and Dr. Mohsen Al-Arabawy	Rapporteurs: Ms. Emerita Mugorewicyeza and Mr. Eskinder Woudneh	Rapporteurs: Mr. Anecto Kayitare and Mr. Michael Abebe
Presenters		
<ol style="list-style-type: none"> <i>The Kagera River Basin: A Framework for the Sharing of Resources</i>, by Dr. Verno Jonker, Aurecon <i>Reservoir Filling Options Assessment for the Great Ethiopian Renaissance Dam using a probabilistic approach</i>, Ms. Azeb Mersha, NBI <i>Modifying the Operation Rules of Jebel Aulia Reservoir for higher reservoir levels</i>, Mr. Ahmed Hayaty, Hydraulics Research Center, Sudan <i>A simplified method in assessing reliabilities of a multipurpose reservoir using equivalent catchment concept and stochastic modeling and simulation techniques, The case of Lake Tana Ethiopia</i>, Mr. Mulugeta Azeze Belete, Bahir Dar University, Ethiopia <i>Challenges and prospects of community-based gully rehabilitation in the Birr Watershed, Upper Blue Nile Basin, Ethiopia</i>, Mr. Getaneh K. Ayele, Bahir Dar University, Ethiopia 	<ol style="list-style-type: none"> <i>Discursive Institutionalism Analysing the Evolution of the NBI Cooperation Discourse over the last decade (2004-2014)</i>, Mr. Ramy Lotfy Hanna, University of Sussex, UK <i>Governance of Transboundary Basins: Lessons learnt from NBI</i>, Mr. Tom Waako, NBI <i>Political Economy Analysis of Good Enough Governance to Building Partnerships in Nile Co-operation for Confidence Delivery of Benefits</i>, Mr. Donald Kasongi, Governance Links, Tanzania <i>Future Nile Vision: Technical and Hydro-political Imperatives to Address Future Water Security and Sustainable Cooperative Development</i>, Dr. Semu Ayalew Moges, Addis Ababa University, Ethiopia; presented by Dr. Musa Mohamed Abseno, Ethiopia <i>Community Based Adaptation to Water under Climate Change as a tool for Conflict Transcendence in the Nile River Basin</i>, Ms. Lama El Hatow, Erasmus University Rotterdam, the Netherlands 	<ol style="list-style-type: none"> <i>The energy situation in the Nile Basin - Demand, Supply and Potential</i>, Dr. Humphrey Ndwiga, AfDB <i>Validating a WEAP Model for the Whole Nile Basin</i>, Dr. Mohamed Elshamy, NBI <i>Integrating Climate Change Uncertainty to the Development of the Nile Basin: Mainstreaming Climate Change into Regional Hydropower Project</i>, Mr. Asegdew Gashaw Mulat, Addis Ababa University, Ethiopia <i>Use of a water resources model for basin planning in the Nile Equatorial Lakes region</i>, Mr. Benjamin Ssekamuli, NBI <i>Economically optimal hydropower development trajectories</i>, by Prof. Kenneth Strzepek, MIT, USA
16.30-17.00: Coffee		
17.00-18.00: Exhibition (continued)		

DAY 2, Tuesday 7 th October - Plenary
08.30-09.30: Session VII - Exploring Possible Futures for the Nile
Room: Mara South
MC introduces Session, Moderator and Speakers
Moderator: Dr. Bert Enserink
Rapporteurs: Ms. Emerita Mugorewicyeza and Mr. Eskinder Woudneh
<ol style="list-style-type: none"> Introduction and Input: How can scenario building inform decision making, by Dr. Bert Enserink, Delft University of Technology Presentation: Nile Cooperation 2024, by Ms Dorothy Kaggwa, NBI Presentation: The Nile Basin in 2050 - Scenario Planning for Effective Water Governance: Strategic Foresight on the Nile Basin Water Governance, by Ms Abby Onencan, Nile Basin Discourse
Q&A, discussion and wrap-up, by moderator

Parallel sessions	
09.30-11.00: Sessions VIII and X	
Session VIII - Nile Basin Joint Development Planning: Way Forward	Session X - Regional integration and the Nile - a common agenda?
<i>Sub-theme: Benefits of cooperation and risks of non-cooperation</i>	<i>Sub-theme: Building partnerships</i>
Format: panel discussion	Format: panel discussion
Room: Mara South	Room: Mara North
Moderator: Mr. Fekahmed Negash	Moderator: Dr. Callist Tindimugaya
Rapporteurs: Dr. Mohsen Al-Arabawy and Mr. Arsene Mukubwa	Rapporteurs: Ms. Françoise Kayigamba and Ms. Wambua Mwikali
Panelists (with short inputs to the discussion):	Panelists (with short inputs to the discussion):
<ol style="list-style-type: none"> 1. Benefits of transboundary cooperation - the broader perspective, by Ms. Dorothy Kaggwa, NBI 2. Integrating regional and national plans for water, food and energy security - lessons from southern Africa, by Prof. Mike Muller, South Africa 3. Basin wide power development and integration: plans and status, by Dr. Humphrey Ndigwa, AfDB 4. NBI investment planning in the Nile Equatorial Lakes Region, by Mr. Emmanuel Olet, NBI 5. National development planning and the Nile basin - a basin manager's perspective, by Dr. Abdulkarim Seid, NBI 6. Prof. Seifeldin Abdalla, Nile-TAC Chair, Sudan 7. Mr. Gedion Asfaw, Ex Reg. P.M. Nile Transb. Env. Action Proj./ Consultant, Ethiopia 	<ol style="list-style-type: none"> 1. NBI in the regional integration agenda - areas of synergy with NBI's basin program, by Mr. John R. Nyaoro, NBI 2. The regional power integration and trade agenda, by Eastern Africa Power Pool, by Eng. Lebba Changullah, EAPP 3. The agricultural trade integration agenda in the Nile Basin, by Mr. Boaz Keizire, CAADP 4. The drought resilience agenda in the IGAD region, by Dr. John Kabayo, IGAD 5. Transboundary water management in the Lake Victoria Basin under LVBC/EAC, by Dr. Canisius Kanangire, LVBC 6. Enhancing Partnership for Transboundary Water Resources Management in the Nile: Experiences from GWP Eastern Africa, by Mr. Patrick Safari, GWP
11:00 - 11:30 Coffee	

Parallel Sessions		
11:30-13:00: Sessions IX, XI& XII		
Session IX - Multi-level Nile Basin Governance - what next for legal, institutional and policy frameworks?	Session XI - Hydro-Diplomacy in the Nile Basin -converging political and technical tracks of cooperation	Session XII - Sustainable financing for institutions, information and infrastructure
<i>Sub-theme: Transboundary water governance</i>	<i>Sub-theme: Hydro-diplomacy in transboundary cooperation</i>	<i>Sub-theme: Financing transboundary cooperation</i>
	Co-convener: SIWI	Co-convener: World Bank
Room: Mara North	Room: Mara South	Room: Loita
Format: panel discussion	Format: panel discussion	Format: panel discussion
Moderator: Mr. Alier Oka	Moderator: Dr. Therese Sjömander Magnusson	Moderator: Dr. Alan Nicol
Rapporteurs: Mr. Tom Waako and Dr. Solomon Abate	Rapporteurs: Ms. Louise-Andree Ndayizeye and Ms. Mwikali Wambua	Rapporteurs: Mr. Tesfaye Teferi and Mr. Peter Kanyi

Panelists (with short inputs to the discussion):		
<ol style="list-style-type: none"> 1. Challenges Facing Nile Trans-boundary Water Cooperation, by Prof. Dr. Abdalla Abdelsalam Ahmed, UNESCO Chair in Water Resources, Sudan 2. Building Sustainable Transbound-ary Cooperation in the Nile Basin: The Contribution of the UNWC to the Nile River Basin Cooperative Framework Agreement, Dr. Musa Mohammed Abseno, Ethiopia 3. Policy Framework for Nile Basin Sustainable Management and Development, by Eng. Teferra Beyene, NBI 4. The place of sub-basin organiza-tions in the Nile Basin Gover-nance Framework, by Prof. Albert Mumma, Kenya 5. Prof. George Krhoda, University of Nairobi/Consultant, Kenya 6. Ms. Gertrude Ngabirano, Kagera Project, NELSAP 	<ol style="list-style-type: none"> 1. The contingent nature of transboundary water issues: How do we identify binding constraints and enabling conditions for actionable outcomes, by Dr. Shafiqul Islam, Tufts University, USA 1. The Rise of Hydro-Diplomacy - Strengthening Foreign Policy for Transboundary Waters, by Mr. Alexander Carius, Adelphi 2. The New Nile Cooperation: A Hydro-Mentality Approach, by Mr. Wondwosen Michago Seide, IGAD 3. Knowledge Networks as a means for integrated capacity development in Transboundary River Basins, by Dr. Amel M. Azab, NBCBN 4. Ambassador Ibrahim Idris, Ethiopia 5. Mr. Achilles Byaruhanga, Nile Basin Discourse 6. Senior Officer, Min. of Foreign Affairs (Kenya) (tbc) 	<ol style="list-style-type: none"> 1. Financing of the Nile Basin Initiative: lessons and future directions for institu-tional and infrastructure development funding, by Ms. Dorothy Kaggwa, NBI 2. Institutionalization of transboundary cooperation as a key determinant of sustaining the Nile Basin Initiative, by Dr. Wubalem Fekade, NBI 3. Financing transboundary river basin management - comparison of member country contributions across African River Basin Organizations, by Dr. Susanne Schmeier, GIZ, Germany 4. The cooperative multi-sector invest-ment program, an effective driver of transboundary water cooperation, by Mr. Olivier Cogels, CIWA Program Adviser, World Bank 5. Senior Officer, National Treasury, Kenya 6. AfDB
13.00-14.00:Lunch		
Plenary		
14.00-15.30: Session XIII - Reporting of Key Messages from Day 1 and 2 and High Level Panel Discussion		
Room: Mara Ballroom		
Format: Presentation followed by panel discussion		
Facilitator (Full Session): Mr. Wallace G. Kantai		
Rapporteurs (Full Session): Ms. Emerita Mugorewicyeza and Mr. Tom Waako		
<p>The objective of this session is for high level representatives and stakeholders to:</p> <ul style="list-style-type: none"> • deliberate on the way forward for Nile cooperation, putting the outcomes and recommendations that have emerged over the two days deliberations as a basis for future decision making at the highest level; • To renew the commitment of high level decision makers to sustain and advance the cooperation to a higher level. 		
14.00-14.30: Key Messages from day 1 and 2		
Reporting: Dr Abdulkarim Seid - Rapporteurs coordinated by Mr. Mekuria Tafesse		
14.30-15.30: - High level Panel discussion		
<p>Panelists</p> <ul style="list-style-type: none"> • Nile-COM Chair/EN-COM Chair • NEL-COM Chair • Host country Nile-COM • Nile-COM Ethiopia • AU Commissioner for Rural Economy and Agriculture • Development Partners' Representative (World Bank) • Mr. John Rao Nyaoro, Executive Director, NBI 		
15.30-16.30: Coffee		
16.30-17.15: Closing Session: Reporting Back, NBDF Declaration and Closing		
Room: Mara Ballroom		
Chair: Hon. Prof. Judi Wakhungu, Cabinet Secretary for Environment, Water and Natural Resources, and Nile-COM member, Kenya		
Facilitator: Mr Kavaka Wambulwa		
Rapporteur: Tom Waako		

<ul style="list-style-type: none"> • Reporting back: Recommendations of the Forum, by Ms. Dorothy Kaggwa, Head Strategic Planning and Management, NBI • NBDF Declaration, Mr. John Nyaoro, Executive Director, NBI • Closing remarks: From Development Partners Dr. Hinrich Thölken, Head of Division, Climate and Environmental Foreign Policy, Sustainable Economy, Federal Foreign Office, Germany, • Closing remarks, Mr. Gustavo Saltiel, World Bank • Closing statement by Hon. Mutaz Musa Abdalla Salim, Minister of Water Resources and Electricity, and Nile-COM Chair, The Sudan and announcement on the hosting of the 5th NBDF • Vote of thanks: Nile-COM member • Announcements (Press Conference, social events), by MC
18.00 Press Conference
19.00: Cocktail

Annex c: List of Exhibitors at the 4th NBDF (alphabetical)

Name of Organization
1. East Africa Sustainability Watch Network
2. GIZ
3. Global Water Partnership
4. International Water Management Institute
5. LTSi
6. Ministry of Environment, Water and Natural Resources, Kenya
7. Nile Basin Capacity Building Network (NBCBN)
8. Nile Basin Discourse
9. Nile Basin Initiative (Three Centers): NBI-Secretariat, ENTRO, NELSAP-CU
10. OTT Hydromet
11. World Bank

Annex d: Organizers of the 4th NBDF

Members of the Regional Organizing Committee (ROC)

- NBI Executive Director, Chair; Mr John Rao Nyaoro, replacing Mr Teferra Beyene from August, 2014.
- Nile-TAC Chair, Prof. Seifeldin Hamad Abdalla,
- Nile-TAC member, Uganda, Dr. Callist Tindimugaya
- Mr. Francis Wajo, Nile-TAC Member, South Sudan
- Nile-TAC, Host country (Kenya); Mr Juma Omondi, also served as Master of Ceremony
- GIZ, Dr Malte Grossmann
- MS Dorothy Kaggwa, HSPM, Nile-SEC
- Dr. AbdulKaim Seid, HWRM, Nile-SEC
- Mr. William Oduk, Head of Finance and Administration, Nile-SEC
- Dr. Wubalem Fekade, Head of Social Development and Communication Unit, ENTRO
- Ms. Mwikali Wambua, Social Development Officer - NELSAP-CU
- Mr Tom Waako, PO, Nile-SEC,
- Ms Emerita Mugorewicyeza, SPS, Nile-SEC

List of ROC Sub-Committees.

No	Subcommittee	Convener	Designation
1.	Coordination	Ms. Dorothy Kaggwa	HSPM
2.	Technical /Forum Program	Dr. Abdulkarim Seid	HWRM
3.	Finance/ Resource Mobilization	Mr. William Oduk	HFA
4.	Communication	Ms. Jane Baitwa	Comm. Specialist
5.	Logistics/Protocol/Security	Mr. Charles Mwine	Administration Officer

Members of the National Organizing committee (NOC)

- Gladys Wekesa (Chair) - MEWNR Chair
- David Bisuben - MEW & NR
- Isaac Mbuthia - MEW & NR
- Bernard Mulwa - MEW & NR
- Joe Omwenga - MEW & NR
- Margaret Irungu - MEW & NR Secretary
- Diskon I. Saunya - MEW & NR
- David Gatheru Kamau - Play Guru Ltd
- Mulliffe Wamefu - Play Guru Ltd
- Boniface K. Ndua - MEW & NR
- Hassan H. Yusufu - MoH
- Eunice Mugeru - MEW & NR
- Anthony Njoroge - Immigration Department
- Willam M. Kiambu - Kenya Police Service
- Robert Wanjara - MEW & NR

Members of the Technical Sub-committee

Organization	Name of person
NBI-Nile-Sec	Abdulkarim Seid (chair)
	Tom Waako
NBI-ENTRO	Wubalem Fekade
	Yosif Ibrahim
NBI-NELSAP-CU	Emmanuel Olet
	Vincent Ssebugwawo
	Mwikali Wambua
UNEP	Elizabeth Khaka
World Bank	Margret Arnold
SIWI	Therese Sjömander Magnusson
GIZ	Malte Grossmann

NBDF Technical Secretariat:

Emerita Mugorewicyeza

Steffen Schwörer

Mekuria Tafesse

Members of the communication (including exhibition) sub-committee

- Jane Baitwa, Nile-Sec
- Louise Ndayizeye, NELSAP-CU
- Mwikali Wambua, NELSAP-CU
- Wubalem Fekade, ENTRO
- Patrick Rutagwera. Nile-Sec
- Ephrem Getahun, Nile-Sec
- Julie Nakasagga, Nile-Sec
- Emerita Mugorewicyeza, Nile-Sec
- Joseph Ngome (NMN - Kenya)
- **Mr. Nyambane, Kavaka Wambulwa:** Communications officer, Min. of Env., Water and Nat. Resources - Kenya.
- **Event Manager:** Wilfred Omondi Opiyo
- **4th NBDF Conference Documentation:** Compiled by Mekuria Tafesse

Annex e: The 4th NBDF Sponsors

- Nile Basin Trust Fund (NBTF contributing partners: Canada, Denmark, European Union, Finland, France, The Netherlands, Norway, Sweden, United Kingdom, World Bank).
- German Cooperation (Deutsche Zusammenarbeit) implemented by GIZ.
- IGAD-INWRM: IGAD Inland water Resources Management Programme.
- Ministry of Environment, Water and Natural Resources, Government of Kenya.
- Nile Basin Discourse

Annex f: Summary of Media Coverage

Cabinet Secretary Judi Wakhungu raises alarm over poverty in Nile Basin

Environment Cabinet Secretary Judi Wakhungu has raised concern over increasing poverty levels in the resource-rich Nile Basin region. Prof Wakhungu said the region's unsustainable water resource management leads to pollution, land degradation, political instability and inadequate and uncoordinated infrastructure development.

<http://www.standardmedia.co.ke/article/2000137321/cs-raises-alarm-over-poverty-in-nile-basin>

4th Nile Basin Development Forum opens today

At least 300 participants from Tanzania and other 10 Nile basin countries are meeting in Nairobi Kenya for the 4th Nile Basin Development Forum (NBDF) which commences today .

See more at: <http://en.africatime.com/tanzanie/articles/4th-nile-basin-development-forum-opens-today#sthash.MQap86zq.dpuf>

Kenya: Nile Basin Development Forum Opens in Kenya

The 4th bi-annual Nile Basin Development Forum (NBDF) opened in Nairobi, Kenya with calls for trust and confidence among Nile Basin Initiative (NBI) member states.

<http://allafrica.com/stories/201410071107.html>

The 2014 Nile Basin Development Forum - Challenges, Lessons, and Prospects in Building Sustainable Trans-boundary Cooperation in a Complex River Basin - challenges-lessons-and-prospects.

<http://www.environmentalpeacebuilding.org/events/the-2014-nile-basin-development-forum-challenges-lessons-and-prospects-in-building-sustainable-transboundary-cooperation-in-a-complex-river-basin/>

World Bank to fund infrastructure projects in Nile basin

The World Bank will finance a range of infrastructure projects in the Nile basin to promote sustainable development and foster cooperation among riparian states, officials said on Tuesday evening. The World Bank Senior Water Specialist for the Africa region, Gustavo Saliel, said negotiations with Nile basin countries have reached a critical state to finance joint infrastructure projects. "The World Bank will support Nile Basin countries utilize water resources to achieve sustainable growth. A new funding appeal from these countries will be honoured if they demonstrate capacity to implement tangible projects," he said.

http://www.shanghaidaily.com/article/article_xinhua.aspx?id=245546

Nile Basin Development Forum Opens in Kenya

The 4th bi-annual Nile Basin Development Forum (NBDF) opened in Nairobi, Kenya with calls for trust and confidence among Nile Basin Initiative (NBI) member states. The Nile Basin, which covers an area of 3.2 million square kilometers across 11 Basin States, reportedly faces growing pressures including persistent poverty among its population, climate change resulting into ... [\(continue reading\)](#)

Kenya: Nile Basin Development Forum Opens in Kenya

The 4th bi-annual Nile Basin Development Forum (NBDF) opened in Nairobi, Kenya with calls for trust and confidence among Nile Basin Initiative (NBI) member states.... [Sudan Tribune] Nairobi

<http://www.worldlander.com/news/kenya-nile-basin-development-forum-opens-in-kenya>

Tanzanian cabinet ratifies Nile deal

The deal aims to replace a colonial-era treaty that gives Egypt and Sudan the lion's share of river water

The Tanzanian cabinet has ratified the 2010 Comprehensive Framework Agreement (CFA) signed by upstream Nile Basin countries, known as the Entebbe Agreement. "The Nile River Cooperation Framework will be ratified by the Tanzanian Parliament in next month," Minister of State in the President's Office, Professor Mark Mwandosya, told Anadolu Agency on Tuesday. He said the ratification - among other things - will lead to transformation on the Nile Basin Initiative (NBI) into a Nile Basin Commission that will set clear procedures of the Nile River water sharing.

"Two member states of Ethiopia and Rwanda have already ratified the CFA," Mwandosya said.

<http://www.aa.com.tr/en/politics/400868--tanzanian-cabinet-ratifies-nile-deal>

IGAD Supports the 4th Nile Basin Development Forum

The Intergovernmental Authority on Development (IGAD) brought financial support to the Nile Basin Initiative (NBI) for their 4th Nile Basin Development Forum that started

on Tuesday in Nairobi, while giving all IGAD member states officials, whether part of the NBI or not, the opportunity to attend the Forum in preparation of the First IGAD Forum on Water set for early December this year in Nairobi.

<http://www.amharicmovies.com/mobile/mobile/news/13749-igad-supports-the-4th-nile-basin-development-forum.html>

Nile Basin Development Forum opens in Kenya

The 4th bi-annual Nile Basin Development Forum (NBDF) opened in Nairobi, Kenya with calls for trust and confidence among Nile Basin Initiative (NBI) member states. At least 450 Nile Basin citizens are attending the forum organised on the theme, "Building Sustainable Trans-boundary Cooperation in a Complex River Basin: Challenges, Lessons and Prospects."

<https://newhub.shafaqna.com/EN/SD/5026200>

Nile Basin Development Forum Calls for Cooperation through NBI

The 4th Nile Basin Development Forum concluded with the issue of a Declaration calling for transboundary cooperation through the Nile Basin Initiative (NBI) and rebuilding the relationship between Egypt and the other Nile basin countries.

<http://water-l.iisd.org/news/nile-basin-development-forum-calls-for-cooperation-through-nbi/>

Ethiopia: Water Ministers Urge Egypt to Rejoin NBI

Concluding the Fourth Nile Basin Development Forum, a high-level meeting held at the Intercontinental Hotel, Nairobi from October 6-7, the Nile-Council of Ministers (Nile-COM), which comprises of the water ministers of all member states of the Nile basin, urged Egypt to resume its membership and reiterate its commitment for cooperation on the Nile.

<http://allafrica.com/stories/201410131329.html>

Nile Basin Development Forum Held in Nairobi

The Fourth Nile Basin Development Forum held in Nairobi on Monday (October 6) on the theme, "Building Sustainable Trans-boundary Cooperation in a Complex River Basin: Challenges, Lessons and Prospects". The official opening ceremony was presided over by Professor Judi W. Wakhungu, Cabinet Secretary-Ministry of Environment, Water, and Natural Resources of Kenya.

Key note addresses were given by ministerial level officials from Tanzania, Sudan, and from the World Bank. Professor Wakhungu told participants: "We are hoping that cooperation around the Nile is going to increase security and stability.

<http://allafrica.com/stories/201410090558.html>

Ethiopia Welcomes Tanzania's Move to Ratify the Nile Treaty

Ethiopia's Ministry of Foreign Affairs (MoFA) has welcomed Tanzania's move to ratify the Cooperative Framework Agreement (CFA), a treaty which seeks to establish a commission to realize an equitable utilization of the Nile River. In a move that quelled uncertainties over Tanzania's commitment to the treaty, President Jakaya Kikwete's cabinet, the most senior executive branch of Tanzania, approved and forwarded the CFA to the country's parliament. The parliament is expected to ratify the treaty next month, Tanzania's minister of State in the President's Office, Mark Mwandosya (Prof.), said on Monday during the 4th Nile Basin Development Forum held in Nairobi, Kenya.

<http://allafrica.com/stories/201410131328.html>

African nations vow to promote utilization of shared waters

NAIROBI, (Xinhua) -- African ministers from Nile riparian countries on Monday vowed to reactivate dialogue aimed at fostering sustainable utilization of shared waters. Speaking in Nairobi during the Nile Basin Development Forum, the ministers promised to pursue dialogue to ensure riparian states benefitted equally from the vast Nile resources. <http://www.coastweek.com/3741-africa-02.htm>

Nile basin policymakers, scientists and researchers meet in Nairobi

NAIROBI (Xinhua) -- Kenya will next week host senior policymakers, scientists and researchers from Nile basin countries for a two-day forum to discuss sustainable utilization of the river's vast resources. Executive Director, Nile Basin Initiative, Engineer John Nyaoro told reporters on Thursday that riparian countries will pledge new commitment to enhance the ecological health of Nile River. <http://www.coastweek.com/3740-Nile-basin-policymakers-scientists-and-researchers-meet-in-Nairobi.htm>

World Bank to increase funding for electricity, water projects

The World Bank has pledged to increase funding for electricity and water infrastructure in Kenya and the neighbouring countries. The funding, which will be channeled through the Nile Basin Initiative (NBI), is expected to boost the economies of 11 countries in the region.

http://www.standardmedia.co.ke/m/?articleID=2000137992&story_title=World-Bank-to-increase-funding-for-electricity-water-projects

Water Ministers Urge Egypt to Rejoin NBI

Concluding the Fourth Nile Basin Development Forum, a high-level meeting held at the Intercontinental Hotel, Nairobi from October 6-7, the Nile-Council of Ministers (Nile-COM), which comprises of the water ministers of all member states of the Nile basin, urged Egypt to resume its membership and reiterate its commitment for cooperation on the Nile.

<http://news.sudanvisiondaily.com/details.html?rsnpid=241348>

Water ministers urge Egypt to rejoin NBI

"GERD is very important investment to all of us and to the wider region" - Mutaz Musa Abdalla Salim, Chair of Nile-COM

Concluding the Fourth Nile Basin Development Forum, a high-level meeting held at the Intercontinental Hotel, Nairobi from October 6-7, the Nile-Council of Ministers (Nile-COM), which comprises of the water ministers of all member states of the Nile basin, urged Egypt to resume its membership and reiterate its commitment for cooperation on the Nile.

<http://www.thereporterethiopia.com/index.php/news-headlines/item/2632-water-ministers-urge-egypt-to-rejoin-nbi>

Nile Basin Development Forum opens in Kenya

The fourth biannual Nile Basin Development Forum (NBDF) opened in the Kenyan capital, Nairobi, with calls for trust and confidence among Nile Basin Initiative (NBI) member states.

<http://www.sudantribune.com/spip.php?article52653>

NAIROBI (Xinhua) -- Kenya will next week host senior policymakers, scientists and researchers from Nile basin countries for a two-day forum to discuss sustainable utilization of the river's vast resources. Executive Director, Nile Basin Initiative, Engineer John Nyaoro told reporters on Thursday that riparian countries will pledge new commitment to enhance the ecological health of Nile River.

<http://www.coastweek.com/3740-Nile-basin-policymakers-scientists-and-researchers-meet-in-Nairobi.htm>

World Bank to increase funding for electricity, water projects

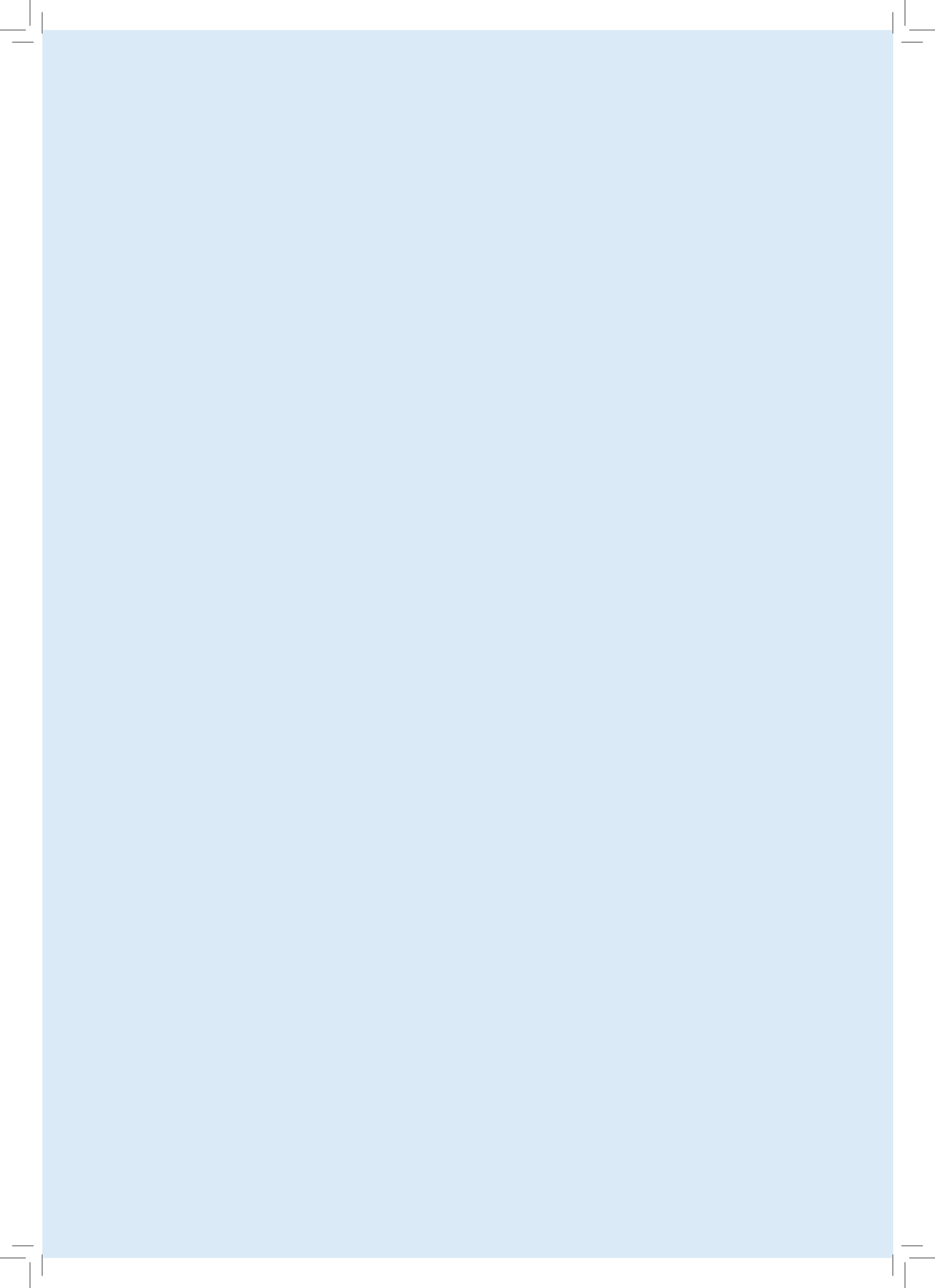
The World Bank has pledged to increase funding for electricity and water infrastructure in Kenya and the neighbouring countries. The funding, which will be channeled through the Nile Basin Initiative (NBI), is expected to boost the economies of 11 countries in the region.

http://www.standardmedia.co.ke/m/?articleID=2000137992&story_title=World-Bank-to-increase-funding-for-electricity-water-projects

Nile Basin Survives Better with Cooperation [opinion]

After a stalemate had run deep over the construction of the Great Ethiopian Renaissance Dam (GERD), the meeting of the Ethiopian Prime Minister Hailemariam Desalegn and Egyptian President Abdel Fattah al-Sisi on the sidelines of the 23rd AU Summit in Malabo, in June 26, 2014, offered a new opportunity. The meeting signaled a new era of engagement to turn the Nile from an epicenter of resource crisis to a symbol of cooperation.

<http://www.individual.com/storyrss.php?story=197077504&hash=5a3c845d65c1f5af48ffa09db7fac4f0>





Building Sustainable Trans-boundary Cooperation in a Complex River Basin Challenges | Lessons | Prospects

Date: 6th - 7th October 2014
InterContinental Nairobi Hotel - Kenya

Nile Basin Initiative Secretariat

P. O. Box 192
Entebbe - Uganda
Tel: +256 414 321 424
+256 414 321 329
+256 417 705 000
Fax: +256 414 320 971
Email: nbisec@nilebasin.org
Website: <http://www.nilebasin.org>
Facebook: /Nile Basin Initiative
Twitter: @nbiweb

Eastern Nile Technical Regional Office

Dessie Road
P.O. Box 27173-1000
Addis Ababa - Ethiopia
Tel: +251 116 461 130/32
Fax: +251 116 459 407
Email: entro@nilebasin.org
Website: <http://ensap.nilebasin.org>

Nile Equatorial Lakes Subsidiary Action Program Coordination Unit

Plot 6418, KCT Building
Avenue du Commerce
P.O. Box 6759, Kigali Rwanda
Tel: +250 788 307 334
Fax: +250 252 580 100
Email: nelcu@nilebasin.org
Website: <http://nelsap.nilebasin.org>

Ministry of Environment, Water and Natural Resources-Kenya

Maji House, Ngong Road
P. O. Box 49720 - 00100,
Nairobi, Kenya.
Tel: +254 204 900 000/2716103
Fax: +254 20 2717830
Website: www.water.go.ke



#NileCooperation

NBI MEMBER STATES



Disclaimer: The views expressed in this publication do not necessarily represent those of the Nile Basin Initiative or those of its Member States.