

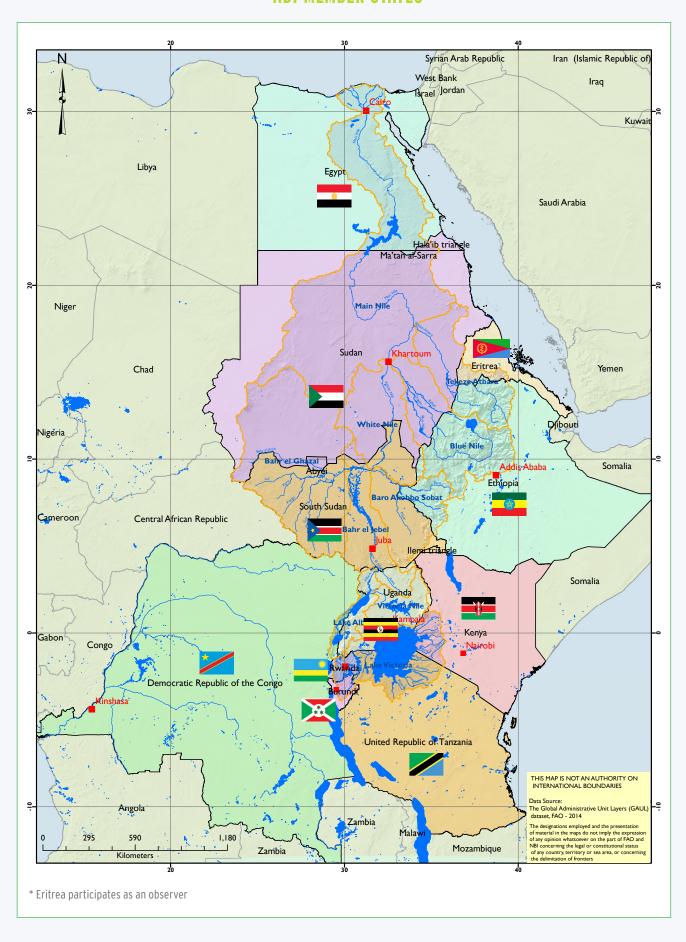




# **SECOND NILE BASIN WETLANDS FORUM**

Held During 5<sup>th</sup> Nile Basin Development Forum. 23<sup>rd</sup> - 25<sup>th</sup> October 2017 Radisson Blue Hotel & Convention Centre, Kigali, Rwanda

# **NBI MEMBER STATES**



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## 1.1 About the Nile Basin Initiative

The Nile Basin Initiative (NBI) is a ten-member intergovernmental partnership established on February 22, 1999 to provide a regional mechanism for joint action to deliver a Shared Vision Objective, which is "to achieve sustainable socio-economic development through equitable utilization of, and benefit from the shared Nile Basin water resources".

The member countries of the NBI are Burundi, D.R. Congo, Egypt, Ethiopia, Kenya, Rwanda, South Sudan, Sudan, Tanzania and Uganda. Only one riparian country – Eritrea – is not a member of NBI: it participates as an observer. The NBI was set up as a transitional cooperative arrangement intended to pave way for a permanent legal and institutional framework for management and development of the shared Nile water resources.

The core functions of the NBI are three, namely to:

1. Provide a regional platform for multi stakeholder dialogue, information sharing, joint planning, and

- joint management of water and related natural resources in the Nile Basin;
- Strengthen Member States' institutional and technical capacities, and develop and operate a shared knowledgebase to support decision making at basin-wide level and action at local levels.
- 3. Assist Member States to identify and prepare regionally significant investment projects, and mobilize financial and technical resources for their implementation.

### 1.2 The Nile Basin Wetlands Forum

This report presents a summary of the proceedings of the Second Nile Basin Wetlands Forum that took place from 23<sup>rd</sup> -25<sup>th</sup> October 2017 in Kigali Rwanda. The **Nile Basin Wetlands Forum** is a multi-stakeholder dialogue platform established by the Nile Basin Initiative (NBI) in 2016 for the purpose of mobilizing and coordinating state and non-state actors to take appropriate action to protect and conserve wetlands of transboundary significance in the Nile River Basin.

The Forum, which was set up with technical and financial support from the Deutsche Gesellschaft für International Zusammenarbeit (GIZ) GmbH, also serves to promote collaboration and synergy amongst wetland stakeholders, and promotes learning through the sharing and exchange of good practices in sustainable wetlands management.

The Nile Basin Wetlands Forum was inaugurated at the launch of the Nile Basin Transboundary Wetlands Project in July 2016 in Entebbe, Uganda. The Kigali sessions that took place in October 2017 constituted the second event of the Nile Basin Wetlands Forum.

# 1.3 The Fifth Edition of the Nile Basin Development Forum

The Second Nile Basin Wetlands Forum was convened as an integral part of the Fifth Nile Basin Development Forum (NBDF). The Nile Basin Development Forum is a regional gathering of a broad range of stakeholders with the aim of exchanging information and viewpoints, and deliberating generally on the opportunities as well as the threats and challenges for the sustainable management and development of the shared Nile water resources. The stakeholders who take part in these events include senior government officials, policy makers, parliamentarians, water managers, environmentalists, academia, media professionals, development partners, civil society, and regional, continental and international non-governmental organizations.

The specific objectives of the NBDF are:

- 1. To continue building confidence and trust among countries of the Nile Basin;
- To raise awareness on the opportunities for benefit sharing from cooperative management and development of the Nile Basin;
- 2. To provide a platform for open discussion of NBI projects and initiatives; and
- 3. To provide a platform for exchange of latest

This report presents a summary of the proceedings of the Second Nile Basin Wetlands Forum that took place from 23<sup>rd</sup> -25<sup>th</sup> October 2017 in Kigali Rwanda. The Nile Basin Wetlands Forum is a multistakeholder dialogue platform established by the Nile Basin Initiative (NBI) in 2016 for the purpose of mobilizing and coordinating state and non-state actors to take appropriate action to protect and conserve wetlands of transboundary significance in the Nile River Basin.

scientific information, knowledge and best practices in transboundary water resources management and development.

The Nile Basin Development Forum is a continuation of the biennial Nile 2002 conferences, which were successful informal fora that served as a catalyst for the creation of the Nile Basin Initiative and drafting of a new Cooperative Framework Agreement. The first NBDF took place in 2006 in the city of Khartoum, Sudan while the most recent – the fifth NBDF – took place from 23<sup>rd</sup> -25<sup>th</sup> October 2017 at the Radisson Blue Convention Centre in Kigali, Rwanda under the theme of "Investing in Nile cooperation for a water secure future". The Forum was attended by over 500 people from across the Nile region and beyond.

# 1.4 The Second Nile Basin Wetlands Forum within the Fifth NBDF

The Second Nile Basin Wetlands Forum was organized under the theme of "Sustaining the Wetlands and Water Ecosystems of The Nile Basin for Sustainability". Its objective was to take stock of current understanding and knowledge of the two most critical elements of the Nile basin environment – wetlands and catchments – and explore options for their sustainable management, including determining the requisite technical, policy and institutional requirements to achieve this.

The Second Nile Basin Wetlands Forum comprised of the following paper presentation sessions and thematic multi-stakeholders plenary panel:

- Parallel paper presentation sessions under the theme 'Sustaining the Water and Ecosystems of the Nile Basin (ECO)': This comprised of three sessions during which papers were presented and discussed under the following specific themes:
  - ECO 1: Catchment and watershed management for wetlands, water-related ecosystems and biodiversity.
  - ECO 2: Sustainable use and management of wetlands.
  - ECO 3: Environmental flows.
- 2. Parallel paper presentation sessions under the theme 'Economic Perspectives for Basin Management (ECN)': This session had one paper presentation

session with a specific theme that was relevant to wetlands and ecosystems management, namely:

- ECN 1: Economic valuation of ecosystem services.
- 3. Thematic panel session under the theme 'Reconciling ecosystem sustainability with water resources investment planning.'

The paper presentation sessions were designed with the objective of taking stock of what is known about the specific issues they were addressing while the plenary multi-stakeholder session sought to explore solutions and pathways to addressing wetlands and ecosystem management challenges.

The sections that follow below present a summary of the proceedings in the above sessions.



# 2. NILE BASIN WETLANDS FORUM PAPER SESSIONS



# 2.1 Catchment and watershed management for wetlands, water-related ecosystems and biodiversity

# 2.1.1 Papers presented

Four papers were presented and discussed in this session. The papers were the following:

- Soil and Water conservation: experiences from Upper Blue Nile Basin, Ethiopia. By: Mr. Adugnaw Tadesse.
- Assessing impact of land use and land cover change on stream flow response: Dinder and Rahad. By: Eng. Khalid Hassaballah.
- 3. Livelihood contribution of landscape restoration.

By Mr. Yitbarek Tibebe Welde Semaet.

4. Catchment restoration for a sustainable renewable energy production in Upper Nyabarongo Catchment, Rwanda: Experiences, challenges and policy recommendations. By: *Mr. Francois Tetero*.

# 2.1.2 Key messages

The following are the key messages and discussion points that emerged from the presentations and ensuring discussions:

- Watershed degradation is a common occurrence across the Nile Basin but is most pronounced in hilly and mountainous regions.
- Watershed degradation and associated soil erosion

produce negative hydrological and ecological consequences as a result of cropland loss, productive capacity decrease and habitat and ecosystems destruction.

- Ongoing soil and water conservation interventions in Nile Basin watersheds need to be replicated and scaled up to produce a significant impact on watershed hydrology.
- To produce desirable positive impacts, watershed restoration interventions need to take into consideration multiple factors such as topography, soil type, soil depth, climate and plant species types.
- Valuation of watershed restoration in connection with ecosystem services and livelihoods should incorporate more ecosystem services and involve large-scale watershed or landscape restoration to produce a large impact.
- Watershed restoration needs to involve diverse land husbandry techniques and be informed by sediments fingerprinting appraisal and hotspots prioritization.
- It is imperative to modify institutional frameworks to allow for stakeholder involvement in order to ensure the sustainability of watershed restoration initiatives.

# 2.1.3 Recommendations

The session made the following recommendations:

- Replicate and scale up ongoing soil and water conservation interventions in Nile Basin watersheds so as to produce a large impact on watershed hydrology and health of associated ecosystems.
- Evaluate the impacts of watershed restoration on multiple ecosystem services and associated human well-being to provide a case for scaling up investments in watershed restoration.
- Integrate driving factors such as climate change, population increase and urbanization in watershed restoration strategies and approaches in the region.
- Countries of the Nile Basin that are not already part

Valuation of watershed restoration in connection with ecosystem services and livelihoods should incorporate more ecosystem services and involve large-scale watershed or landscape restoration to produce a large impact.

of the Bonn Challenge should consider signing up to the challenge. The Bonn Challenge is a global effort that aims to bring 150 million hectares of deforested and degraded land into restoration by 2020, and 350 million hectares by 2030. Interventions under the Bonn Challenge are underpinned by the forest landscape restoration (FLR) approach.

# 2.2 Sustainable use and management of wetlands

# 2.2.1 Papers presented

Four papers were presented and discussed in this session. The papers were:

- Supporting sustainable management of the wetlands in the Mara River Basin.
   By: Mr. Emmanuel Mgimwa.
- 2. Community conservation agreements model for sustainable management of Winam Gulf wetlands. By: Ms. Roniance Adhiambo.
- 3. How healthy is the Lake Victoria ecosystems goods and services? Gender-ecosystem-poverty linkage perspective. By: *Dr. Aloyce Hepelwa*.
- 4. Incentives-based conservation approach for Nile Basin wetlands wise-use. By: *Mr. Amos Thiongo*.

# 2.2.2 Key messages

The following are the key messages and discussion points that emerged from the presentations and ensuring discussions:

• To ensure successful implementation of integrated management plans for transboundary wetlands,

and ownership and sustainability of transboundary wetland management initiatives, it is essential to establish implementation mechanisms that, among other things, allow for multi-stakeholder participation and cross-border coordination structures.

- There is need to mobilize resources for implementation of wetlands integrated management plans through such mechanisms as Conservation Investment Plans and bankable investment project preparation.
- The potential of Incentives and Voluntary Based Conservation Agreements for conservation of Nile Basin Wetlands needs to be explored.
- There is need to develop monitoring protocol and associated indicators for measuring the health of ecosystems and impacts of wetlands conservation and management interventions.

## 2.2.3 Recommendations

The session concluded with the following recommendations:

- Integrate wetlands management plans in river basin planning systems such as exists for the Mara Basin.
- Link wetlands, human rights and river basin planning so as to secure wetlands integrity, associated ecosystems goods and services supply and livelihoods security.
- Develop Conservation Investment Plans, transboundary institutional coordination structures and stakeholder involvement mechanisms to facilitate the implementation of Transboundary Wetlands Integrated Management Plans.
- The NBI to support national governments to prepare National Wetlands Reports that cover Ramsar obligations of the Member States and support informed decision making on wetlands in the Nile region.
- Ethiopia to join the Ramsar Convention to tap into regional and global best practices and build

on existing national achievements on wetlands conservation.

# 2.3 Environmental Flows

# 2.3.1 Papers presented

Four papers were presented and discussed in this session. The papers were:

- A framework model for Strategic Environmental Assessment for river engineering development. By: Mr. Lugard Kaunda Ogaro.
- 2. Environmental flow assessment: NBI experience; including case studies (Dinder). By: Dr. Mohsen Alarabawy.
- 3. Environmental flow for the Nile Basin: Framework for regional evaluations and a case study from the Mara River. By: *Dr. Gordon O'Brien*.
- 4. Evaluation of experiences with E-flow assessments in the East Africa. By: *Prof. Michael McClain*.

# 2.3.2 Key messages

The following are the key messages and discussion points that emerged from the presentations and ensuring discussions:

- There is strong need to factor issues of environmental sustainability, environmental flows and integrated water resource management in river basin planning.
- Upstream and downstream perspectives need to be taken into consideration in E-flow determinations.
- Environmental Flows determination needs to be an integral component of any investments assessment in river basins.
- Comprehensive approaches that integrate E-flow assessments with strategic assessments, water balance assessments, investments assessments and ecosystem valuation needs to be developed and adopted.
- E-flows methodologies need to be modified to consider flow-ecology-resource objective human needs linkages.

- There is need to harmonize the methodologies for E-flow assessment in the Nile region.
- Nile Basin countries need to develop national polices and legal frameworks on environmental flows borrowing from the experiences of Kenya, Tanzania and South Africa in such regard.
- The Nile Basin Initiative needs to support capacity building on E-flows assessments in the Nile counties
- There are few cases of Strategic Environmental Assessments (SEA) in the Nile Region.

## 2.3.3 Recommendations

The session recommendations were that:

- The NBI, River Basin Organisations and countries in the Nile region take action in factoring issues of environmental sustainability, environmental flows and integrated water resource management in river basin planning.
- The NBI to carry out additional work on E-flows embedding, operation, monitoring and adaptation in light of recent advances in methodology.
- The NBI to establish a Community of Practice on E-flows methodology and best practices in the Nile Region.
- Develop regional-level legal and institutional frameworks for application of E-flows in the Nile Region.
- Countries of the Nile Region to develop national policies and laws on E-flows.
- The Nile Basin Initiative to support capacity building in the Nile counties on E-flows assessments.
- The Nile Basin Initiative to develop a comprehensive approach for river basin planning that integrates E-flow assessments with strategic assessments, water balance assessments, investments assessments and ecosystem valuation.

# 2.4 Economic valuation of ecosystem services

# 2.4.1 Papers presented

Five papers were presented and discussed in this

The NBI to support national governments to prepare National Wetlands Reports that cover Ramsar obligations of the Member States and support informed decision making on wetlands in the Nile region.

session. The five papers were the following:

- The value of the Sudd wetland: implications for integrated policies in the Nile River Basin.
   By: Dr. Hannes Lang and Prof. John Gowdy.
- 2. Applying standardized methodology to value biodiversity and ecosystem services in the Lake Victoria Basin. By: *Dr. Brenda Bergman*.
- 3. Rapid assessment of ecosystem service values at Yala wetland, Kenya. By: *Mr. Justus Amayo*.
- 4. Economic valuation of wetlands ecosystems for wise use: Review and case studies from the Nile Basin. By: *Dr. Amel Azab*
- 5. The Economics of Ecosystem and Biodiversity (TEEB) Services for major rivers and lake basins in Africa: A Case study of the Tana River Basin. By: *Ms. Julie Mulonga and Mr. Brian Wamubey*.

# 2.4.2 Key messages

The following are the key messages and discussion points that emerged from the presentations and ensuring discussions:

- *General*: The general comments of the session were:
  - The valuation of ecosystems is a useful tool for making a case for the conservation and wise use of environmental resources.
  - The initiatives on ecosystem valuation are a step in the right direction towards water security and sustainable development in the Nile Basin.
  - Stakeholder engagement and involvement is a must for proper and acceptable valuation of wetlands and ecosystems.
  - Scientists need to simplify valuation tools to enable ordinary people use them for

conservation work

- Many of the values attributable to ecosystem services by economists are often ignored in private valuations that often focus solely on consumptive and direct use values.
- On the Sudd: The Sudd valuation study aroused a lot of interest and debate. Key comments specific to the Sudd were:
  - The Sudd has a potential value of US\$ 1 billion.
  - The Sudd has the potential to provide more water to Egypt and Sudan if well protected.
  - The Sudd plays an important role in natural flood control of the White Nile.
  - Stakeholders, particularly local communities, have not been consulted or involved in previous Sudd valuation studies
  - The national government of South Sudan needs to play a central role in the development of the proposed Jonglei canal project in view of its significant impacts on the survival of the wetlands and linked local livelihoods.

### 2.4.3 Recommendations

Recommendations from this session were mainly addressing the methodology for ecosystem valuation. Recommendations were to:

The NBI, River Basin Organisations and countries in the Nile region take action in factoring issues of environmental sustainability, environmental flows and integrated water resource management in river basin planning.

- Engage key stakeholders during the process of valuation.
- Avoid double valuation of ecosystem services.
- Use Total Economic Valuation methods to avoid underestimation of the true value of ecosystem services.
- Clearly identify boundaries of overlapping ecosystems where comparative analysis is to be conducted.
- Factor the cost of ecosystem degradation and responsibility centre for ecosystem restoration in valuation studies.
- Consider a comprehensive portfolio of provisioning, regulating, supporting and cultural values alongside consumptive and direct use values during ecosystem valuation.

# 3. NILE BASIN WETLANDS FORUM THEMATIC PANEL SESSIONS



# 3.1 Reconciling ecosystem sustainability with water resources investment planning

# 3.1.1 Papers presented

This session was dedicated to exploring solutions to the challenges identified in the paper presentation sessions, and identifying pathways for taking action. To set the stage for discussions, three keynote presentations were made by imminent scientists from around the world. The presentations were:

- Environmental flows: how to use existing best practice in the Nile Basin region. By: Prof. Michael McClain from UNESCO-IHE in Delft, The Netherlands.
- 2. Water requirements of wetlands: Integrating wetland sustainable use and management in basin planning. By: *Dr. Paul Ouédraogo* from the Ramsar Convention Secretariat in Gland, Switzerland.

3. Integrated watershed management for protection of water source areas and sustainable livelihoods. By *Dr. Seifu A. Tilahun* from Bahir Dar University, Ethiopia.

The keynote addresses were followed by short reflections and comments from senior government officials from the Nile Region. The officials were Eng. Alier Oka, Undersecretary in the Ministry of Water Resources and Irrigation of the Republic of South Sudan; Ms. Astrid Hillers, Head of the International Waters in Africa Program at GEF; Ms. Lucy Iyango Anne, Assistant Commissioner for Wetlands, Ministry of Water and Environment of the Republic of Uganda; and Mr. François Xavier Tetero, Head of Water Resource Management Department in the Rwanda Water and Forestry Authority (RWFA).

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## 3.1.2 Key messages

The following are the key messages and discussion points of the session:

- The degradation of wetlands, water-based ecosystems and biological diversity in the watersheds of the Nile Basin is widespread and impacting negatively on the ecology and hydrology of the Nile River.
- The current level of application of E-flows in the Nile region is low and insufficient to ensure the sustainability of the water-related ecosystems of the Nile Basin, and preservation of associated livelihoods in the Nile riparian countries.
- To increase E-flows practice within the Nile Region, there is need to build capacity of the Nile riparian states in E-flows work, support them in the introduction of policy and legal frameworks on E-flows, and enhance E-flow measurement tools available to them.
- There is a low level of investment in the protection and conservation of ecosystems and biodiversity, particularly among the poorer countries of the Nile Region.
- There is a growing problem of the proliferation of invasive aquatic weeds like water hyacinth on the Nile waterways and large water bodies such as Lake Victoria and Lake Tana. This problem is linked to watershed degradation and threatens the biodiversity of the Nile Basin.
- There is need to increase the application of environmental management tools like Strategic Environmental Assessments (SEA) and

- Environmental and Social Impact Assessments (ESIA) during investment planning and investment project preparation in the Nile Region.
- Handbooks on River Basin Planning and other related tools from the Ramsar Convention Secretariat need to be enhanced through the incorporation of the water requirements of wetlands.

### 3.1.3 Recommendations

Recommendations from this session were:

- Nile Basin countries to increase the level of investment in watershed and landscape restoration, and tap into financing opportunities for watershed management under the Bonn Challenge and Paris Agreement.
- Nile Basin countries to increase the level of investment in the protection and conservation of wetlands and aquatic ecosystems due to their important link to river health, local livelihoods and national socio-economic development.
- The Nile Basin Initiative to support the embedment of E-flow assessments in water resources planning and management culture through capacity building, supporting development of responsive management frameworks (policies, regulations and standards), increasing availing of E-flow measurement tools and promoting their wide application.
- The Nile Basin Initiative and Member States to make Strategic Environmental Assessments (SEA) and Environmental and Social Impact Assessments (ESIA) an integral part of water resources investment planning,

# 4. OVERALL CONCLUSIONS AND RECOMMENDATIONS

### 4.1 Conclusions

The Second Nile Basin Wetlands Forum took place within the Nile Basin Development Forum and successfully achieved its dual objectives of providing an opportunity to take stock of the knowledge and practices in the Nile Basin with respect to wetlands and ecosystems management, and exploring options for their wise use and sustainable management.

Through 20 papers presented and discussed under four technical presentation sessions and one plenary discussion session, participants in the Nile Basin Wetlands Forum explored the science, policy and practice of wetlands protection and conservation in the Nile Basin and exchanged views on a wide range of topics including watershed management, soil and water conservation, restoration of degraded landscapes, wetlands management, integration of wetlands management in river basin planning, ecosystems and biodiversity protection and conservation, wetlands and ecosystems valuation, natural resources-dependent livelihoods. E-flow assessments Strategic and Environmental Assessments.

Key observations of the Forum about the state of wetlands and ecosystems in the Nile Basin were that:

- There is widespread degradation of wetlands, water-related ecosystems and biological diversity in the Nile Basin that is impacting negatively on the ecology and hydrology of the Nile, and on livelihoods supported by the river.
- 2. The levels of investment by Nile riparian countries in soil and water conservation and restoration of degraded watersheds is low. Watershed management interventions need to be replicated and rolled out to many areas to produce a significant beneficial impact on watershed hydrology.

The Second Nile Basin Wetlands Forum took place within the Nile Basin Development Forum and successfully achieved its dual objectives of providing an opportunity to take stock of the knowledge and practices in the Nile Basin with respect to wetlands and ecosystems management, and exploring options for their wise use and sustainable management.

- 3. E-flow assessments are a relatively new discipline and are not widely applied in the region due, among other things, to low capacity for E-flow assessments, inadequacy of E-flow measurement tools, and diversity and complexity of E-flow measurement methodology.
- 4. E-flow measurements are not yet an integral component of strategic assessments, water availability assessments, investment planning or ecosystem valuation.
- 5. Strategic Environmental Assessments are infrequently carried out within the Nile Region.
- 6. Wetlands and ecosystem valuation is an important tool for the protection and conservations of wetlands and ecosystems, policy advocacy and mainstreaming of wetlands and ecosystems into sectoral planning. There is a growing number of wetland and ecosystem valuation studies being conducted in the Nile region but methodology are still too complicated for the tool to be applied by lay people in conservation work.
- 7. Stakeholder consultation and involvement, particularly of local communities, has been inadequate in a number of wetlands and ecosystem valuation studies carried out in the Nile Basin.
- 8. Wetlands integrated management plans prepared

for transboundary wetlands have failed to take off due to weak local community ownership, lack of financial resources for implementation, and lack of cross-border coordination mechanisms.

### 4.2 Recommendations

Many recommendations were made over the two days of technical presentations and intense discussions. Key among the recommendations is the following:

- The Nile countries need to increase the level of investment in soil and water conservation and degraded watershed restoration to produce a significant positive impact on the Nile hydrology.
- 2. The NBI needs to support wide application of E-flow assessments and promote efforts to make E-flow assessments an integral part of strategic assessment and river basin planning culture through capacity

- building, supporting development of responsive management frameworks (policies, regulations and standards) and increasing availing of E-flow measurement tools.
- 3. Economists and other valuation experts need to improve stakeholder involvement during economic valuation of wetlands and ecosystems, and develop simple methodology that can be applied by less technical people in conservation initiatives.
- 4. Nile countries to increase the preparation of Conservation Investment Plans as a tool for mobilising resources for implementation of Wetlands Integrated Management Plans, and develop institutional frameworks for transboundary wetlands that allow for stakeholder participation and cross-border coordination.



# ANNEX 1: NILE BASIN DEVELOPMENT FORUM PROGRAMME

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	1+2	and concert by The Nile Project – $Room~MH~3+4$		Plenary Session 1 – Water Security – From concept to practice $ Room~MH~1+2$		Danar procentation coccions - Taking ctuck of what we know
/10	Opening Session – Room MH 1 + 2	Nile Media Awards ceremony and conce	217	Plenary Session 1 – Water Security – Fro	Coffee break	
Day 1 – 23 October 2017	15:30 – 18:00	16:00 – 21:00	Day 2 – 24 October 2017	09:00 – 10:00	10:00 – 10:30	

08:30 - 10:15	Plenary 2 – Water Security in the Nile Ba	Nile Basin – Room MH 1 + 2		
10:15 – 10:45	Coffee Break			
		Panel Sessions – Exploring solutions and pathways	y solutions and pathways	
10:45 – 12:15	Thematic Panel 1: Options for conserving and diversifying water source	Thematic Panel 2: Reconciling ecosystem sustainability with water resources investment planning	Thematic Panel 3: Towards a basin approach for efficient agricultural water management and food security	Thematic Panel 4: Regional integration through hydraulic infrastructure
	Room MH 1 + 2	Room MH 3	Room AD 12	Room AD 10
12:15 – 13:30	Lunch Break			
13:30 – 15:15		High Level Synthesis Panel Sessions – How to take it forward	sions – How to take it forward	
	Synthesis Panel 1: Nile Cooperation, ho	Synthesis Panel 1: Nile Cooperation, how to make the qualitative leap forward?	Synthesis Panel 2: Rethinking basin pla	Synthesis Panel 2: Rethinking basin planning and investment in the Nile Basin
	Room A	Room MH 1 + 2	Room	Room MH 3
15:15 – 16:00	Coffee Break			
16:00 – 17:00	Ministerial Panel – Room MH 1 + 2			
17:00 – 17:30	Closing – Room MH 1 + 2			



# Fifth Nile Basin Development Forum

# 23-25 October 2017

Radisson Blue Hotel & Convention Center, Kigali - Rwanda Investing in Nile Cooperation for a Water Secure Future



# FINAL PROGRAMME

# DAY 1 – Monday, 23<sup>rd</sup> October 2017

Participants are expected to register for the event at the Opening Session. Organisers, hosts and partners welcome participants to the Fifth Nile Basin Development Forum and introduce the programme for the following days. The Guest of Honour will visit the exhibition which will be open to participants for the duration of the NBDF.

	Opening Session
	Room MH 1 + 2
15:30 – 16:00	15:30 – 16:00 Registration over tea and coffee
16:00 - 16:05	16:00 – 16:05 Welcome statement by Dr. Claudine Uwera, Master of Ceremony (MC)
16:05 - 16:15	16:05 – 16:15 Poem presentation by school children
16:15 – 16:25	16:15 – 16:25 Welcome remarks by Eng. Innocent Ntabana, Executive Director, NBI Secretariat
16:25 – 16:35	16:25 – 16:35 Welcome remarks by HE Amb. Rolf Welberts, German Special Envoy for Nile Cooperation Affairs
16:35 – 16:45	16:35 – 16:45 Welcome remarks by William Rex, CIWA Program Manager World Bank
16:45 – 16:55	<b>16:45 – 16:55</b> Welcome remarks Nile-COM Member of Rwanda (tbc)
16:55 – 17:05	16:55 – 17:05 Opening speech by the Guest of Honour
17:05 – 17:25	17:05 – 17:25 Introduction to the program by Dr. Abdulkarim Seid, Chair of the Programme Committee
17:25 – 18:00	17:25 – 18:00 Exhibition Opening

The Nile Media Awards 2017 seek to recognize journalists from within the Nile Basin for excellent reporting on Nile cooperation issues in order to promote increased, factual and increased, accurate and factual reporting on these issues.

	Nile Media Awards 2017 Ceremony and Nile Project Concert
	Room MH 3 + 4
18:00 - 19:00	18:00 – 19:00 Nile Media Awards Ceremony (incl. dinner)
19:00 – 21:00	19:00 – 21:00 The Nile Project Concert

# DAY 2 – Tuesday, 24<sup>th</sup> October 2017

cooperative solutions to managing water resources in an integrated and equitable manner. The first Plenary Session of the 5<sup>th</sup> NBDF will explore the concept of water As water in the Nile Basin becomes an increasingly scarce resource, given the impacts of climate change, demand continues to rise with the growing populations and economies of the Nile Basin states. However, there are a wide range of options available to riparian states seeking to meet these growing demands by investing in security, what it means for the Nile Basin, and how cooperation can help achieve it for up- and downstream countries alike.

	Plenary Session 1: Water Security – From concept to practice Room MH 1 + 2
09:00 – 10:00	<ul> <li>Brief introduction to the program and theme of NBDF; by Dr. Claudine Uwera, MC</li> <li>Keynote 1: River Basin Management Pathways to Water Security; by Dr. Don Blackmore</li> </ul>
	<ul> <li>Keynote 2: Water security through regional basin planning – an example from the SADC region; by Prof. Zebedia Phiri</li> <li>Moderator: Dr. Claudine Uwera, MC</li> </ul>
	Rapporteurs: Dr. Wubalem Fekade and Dr. Mohsen Alarabawy
<b>10:00 – 10:30</b> <i>Coffee break</i>	Coffee break

the nexus between these three –, water ecosystems, governance, financing options and knowledge assets. These have been arranged in five parallel session series, as A first step in moving towards a basin-wide approach to managing the waters of the Nile is to take stock of the knowledge and solutions already available in the basin. Three rounds of paper presentation sessions will collect the experience of scientists and practitioners on topics ranging from water resources and food security, energy access – and outlined below, with each session featuring presentations from four experts as well as a short discussion.

		Paper Presenta	Paper Presentation Sessions: taking stock of what we know	ock of what we know	
	WA1 - Climate change	ECO1 - Catchment/Watershed	WEF1 – Food production and	GOV1 - Transboundary	ECN1 - Economic valuation of ecosystem
		Management	water management	cooperation: sharing	services
				experiences	
	<b>Moderator:</b> Ur. Anmed Knalid <b>Rapporteur:</b> Eng. Arsene Mukubwa	Moderator: Eng. Colleta Kunamia Rapporteur: Mr. Leonard Akwany	wooerator: Ur. Kasnid Mbaziira Rapporteur: Mr. Andy Tola	Moderator: Ms. Dorothy Kaggwa Rapporteur: Mr. Tom Waako	Moderator: Dr. Michel Masozera Rapporteur: Mr. Emmanuel Chonza
	Room MH 1 + 2	Room MH 4	Room MH 3	Room AD 12	Room AD 10
	Climate Change projections for the	Soil and Water conservation,	Regional agricultural trade and	Beyond legalisms: toward	The Value of the Sudd Wetland: Implications
	Nile Basin: what do the climate models tell us?	experiences from upper Blue Nile Basin, Ethiopia	investment in the Nile Basin Dr. Claudia Ringler	cooperative governance of resource security	for Integrated Policies in the Nile River Basin
			Harnessing Water for Food Security: Challenges and options		
	Dr. Modathir Zaroug	Dr. Seifu A. Tilahun	Dr. Eltigani Abdelgalil	Ms. Belynda Petrie	Dr. Hannes Lang / Dr. John Gowdy
00	Analyzing the future climate change Assessing impact of land use and Technical efficiency of large	Assessing impact of land use and	Technical efficiency of large	TB water governance and	Applying standardized methodology to
-15:0	of Upper Blue Nile River Basin (UBNRB) using statistical down	land cover change on stream flow response: Dinder and	scale irrigated wheat production cooperation through Benefit in Blue Nile basin, case of Koga Opportunities Assessment	cooperation through Benefit Opportunities Assessment	value biodiversity and ecosystem services in the Lake Victoria Basin
10:30		Rahad	irrigation scheme	Dialogue in the Sio-Malaba- Malakisi sub-basin	
	Mr. Dagnenet Fenta Mekonnen	Ena, Khalid Hassaballah	Mr. Anteneh Belav	Mr. John Owino	Dr. Brenda Beraman
	Impact of climate change on	Livelihood Contribution of	Impacts of irrigation	Project based transboundary	Rapid Assessment of Ecosystem Service
	precipitation distribution and water landscape restoration availability in the Nile basin	landscape restoration	development in the Upper Blue Nile basin using Nile Basin DSS	cooperation: the case of GERD-P	values at Yala Wetland, Kenya
	Mr. Zelalem Mekonnen	Mr.Yitbarek Tibebe Welde semaet	Eng. Habtam Achenif	Eng. Gedion Asfaw	Mr. Justus Amayo
	The National Impact of 1.5 and 2	Catchment restoration for a	Satellite based ICT for improved	GERD and Hydro-politics in the	Economic Valuation of Wetlands Ecosystems
	Degree Global Warming over Africa, <mark>sustainable renewable</mark> and the Role of Aridity  Nyabarongo Catchmen	sustainable renewable energy production in Upper Nyabarongo Catchment, Rwanda	crop production in the Gezira Scheme – Sudan	Eastern Nile, from water to benefit sharing?	for Wise Use Review and Case Studies from the Nile Basin
	Dr. Modathir Zaroug	Mr. Francois Tetero	Prof. Younis Gismalla	Dr. Rawia Tawfik	Dr. Amel Azab
	Discussion	Discussion	Discussion	Discussion	Discussion
	Lunch break				

	WA2 - WR Availability and Variability Moderator: Dr. Ahmed Khalid	ECO2 - Sustainable use and management of Wetlands Moderator: Eng. Colleta Ruhamia	WEF2: Multi-sector planning and tradeoffs	GOV2 - Hydro-politics of the Nile Basin Moderator: Ms. Dorothy Kaggwa	ECN2 - Hydro -economics of water allocation
			Moderator: Dr. Rashid Mbazilra		Moderator: Dr. Michel Masozera
	Room MH 1 + 2	Room MH 4	Room MH 3	Room AD 12	Room AD 10
	Surface water availability and variability in the Basin and climate change impacts in the Nile Basin	Supporting Sustainable Management of the Mara Wetlands in the Mara River Basin	Eastern Nile Multi-Sectoral Collective Action Theory and Investment Opportunity Analysis Nile Basin Cooperation: Past Experience, Future Direction	S	Water in national economic planning: utilization, challenges and valuation
	Prof. Seifeldin Abdalla	Mr. Emmanuel Mgimwa	Ms. Azeb Mersha	Dr. Alan Nicol	Dr. Khalid Siddig
00:51-08:	Use of EO Data for Monitoring RiverCommunity Conservation Basins. Sustainable Management Winam Gulf Wetlands	Community Conservation Agreements Model for Sustainable Management of Winam Gulf Wetlands	Influence of Roseires Dam Heightening on Performance of Al-Guneid Irrigation Pumps in Sudan	Role of water diplomacy in TB cooperation in EN: Application of experimental games	Eastern Nile Multipurpose Option Scoping Model
FT.	Ms. Milly Mbuliro	Ms. Roniance Adhiambo	Prof. Ali Adeeb	Dr. Mahsa Motlagh	Mr. Mikyas Gonfa
	Assessment of GW of Blue Nile Sudan	How Healthy is the Lake Victoria Using WEAP Model to Monitor Ecosystems Goods and Services? and Manage the Blue Nile River Gender-Ecosystem-Poverty Basin linkage Perspective		The Emotional River: The Hydro Political Psychology of the Nile	Projecting downstream impacts of the GERD: the case of irrigated schemes in Sudan
	Dr. Elmusalami Fadlallah	Dr. Aloyce Hepelwa	Eng. Mohamed Mokhtar	Mr. Wondwosen Michago Seide Dr. Shamseddin	Dr. Shamseddin Ahmed
	Flood forecasting and early warning Incentives Based Conservation Approach for Nile Basin Wetlands Wise-use by	Incentives Based Conservation Approach for Nile Basin Wetlands Wise-use by	Mainstreaming value of Ecosystems and Biodiversity in Development Planning: Tana River Basin		Updating the hydrology of the Baro-Akobo-Sobat
	Eng. Surafel Mamo Woldegbrael	Mr. Amos Thiongo	Mr. Wamubeyi Brian Jared		Dr. Verno Jonker
	Discussion	Discussion	Discussion	Discussion	Discussion
	Coffee Break				

ECN3 – Investment and trade: exploring the current landscape Moderator: Michel Masozera	Room AD 10	Political economy of large scale agricultural investment in the Nile Basin: exploring opportunities and challenges	Mr. Ramy Hanna	Food, Fodder and Flowers: virtual water trade in the Nile Basin	Dr. Ana Elisa Cascão	Integrated diagnostic approach Business Corporations in the Eastern Nile Basin: to understand stakeholder's role Engine or Barrier of Effective Water and impact on water governance Governance?	Ms. Abeer Abazeed	Climate finance: opportunities for investment in the water sector	Mr. Herman Kwoba	Discussion
GOV3 – Multi-track Hydro- diplomacy Moderator: Ms. Dorothy Kaggwa	Room AD 12	Realizing the water security of the Nile Basin states: exploring the options	Dr. John R. Nyaoro	The role of media and science communication in shaping debates and negotiations over the Nile.	Dr. Emanuele Fantini	Integrated diagnostic approach Business Corp to understand stakeholder's role Engine or Bar and impact on water governance Governance? in the Nile Basin	Mr. Mohamedh Tawfik	The Nile Project: culture and education dimensions of water diplomacy	Mr. Mina Girgis	Discussion
WEF3 — Coordinated planning and management Moderator: Dr. Rashid Mbazilra	Room MH 3	Towards operation of dam cascades, approaches of NBI in the Eastern Nile	Dr. Omer El-Awad		Prof. Abdalla Abdelsalam Ahmed <mark>Dr. Emanuele Fantini</mark>	Seeking Compromise with the GERD	Dr. Kevin Wheeler	National Water Projects in the Eastern Nile Basin: Drivers to Conflict or Cooperation?	Eng. Mina Michel Samaan	Discussion
ECO3 – Environmental Flows Moderator: Eng. Colleta Ruhamia	Room MH 4	A Framework Model for Strategic Environmental Assessment for River Engineering Development	Mr. Lugard Kaunda Ogaro	Environmental flow assessment: NBI experience; include case studies (dinder)	Dr. Mohsen Alarabawy	Environmental flow for the Nile Basin: Framework for regional evaluations and a case study from the Mara river	Dr. Gordon O'Brien	Evaluation of experiences with e-flow assessments in the East Africa	Prof. Michael McClain	Discussion
WA3 - Enhancing water resources supply Moderator: Dr. Ahmed Khalid	Room MH 1 + 2	Scope for diversifying water resources supply in the Nile Basin	Dr. Yassir Abas	Rainfall Harvesting Projects in Sudan Environmental flow assessment: Challenges facing Atbara Dam NBI experience; include case Complex (ADC) Operation studies (dinder) Management	Dr. Ahmed Adam	Challenges and success factors to enhancing rural community resilience to drought- Case study Bugesera in Rwanda	Eng. Lazare Nzeyimana	Groundwater availability and potential in the Nile Basin	Dr. Seifu Kebede	Discussion Discussion Discussion
		, <u> </u>	7	00:71-08:21	7		7	, <u>, , , , , , , , , , , , , , , , , , </u>	7	

Realizing the Water security of the Nile Basin States: balancing the Existing Water Uses and Potential Water Uses, Dr. John Rao Nyaoro The River Nile: a bridge to cooperation, Prof. Mark Mwandosya

The Grand Ethiopian Renaissance Dam and the Nile Basin: Implications for transboundary water cooperation, Dr. Zeray Yihdego, Prof. Alistair Rieu-Clarke, Dr. Ana Elisa Cascão

# DAY 3 – Wednesday, 25<sup>th</sup> October 2017

Day 3 aims to pave a way forward for Nile Basin countries to explore joint solutions to river basin management. The Plenary introduces current strategies at the national level, NBI's approach to exploring possible solution pathways and examples of how two other river basins are addressing similar challenges.

Plenary Session 2: Coordinated planning and management of shared water resources for enhancing water security in the Nile Basin

Room MH 1 + 2

Review of Day 2, introduction to Day 3; by Dr. Claudine Uwera, MC

Country perspectives (5) on future water demands, challenges and strategies for addressing the growing water demands

Sudan: Eng. Ahmed Adam

08:30 - 10:52

Rwanda: Dr. Omar Munyaneza

Uganda: Eng. Sowed Sewagudde

Ethiopia: Dr. Ylma Seleshi

Keynote 1: Exploring how to address projected growth in water demands, NBI's approach; by Dr. Abdulkarim Seid

Keynote 2: Indicative scenarios of cooperative solutions for addressing up- and downstream water demands; by Prof. Dale Whittington

Keynote 3: Adapting water governance to emerging needs and challenges, example from the Colorado river basin; by Prof. Edith Zagona

Moderator: Dr. Claudine Uwera, MC

Rapporteurs: Dr. Wubalem Fekade and Dr. Mohsen Alarabawy

Coffee break

Four parallel panel sessions draw on the vast knowledge collected on day two and begin to explore possible solutions and pathways to the sustainable and cooperative management and development of the Nile Basin's resources. Each panel will feature three short expert inputs to stimulate discussion.

		Panel Sessions: exploring solutions and pathways	solutions and pathways	
	<b>Thematic Panel 1:</b> Options for conserving and diversifying water source	Thematic Panel 2: Reconciling ecosystem sustainability with water resources investment planning	Thematic Panel 3: Towards a basin approach for efficient water management and food security	Thematic Panel 4: Regional integration through hydraulic infrastructure
	Moderator: Dr. Ahmed Khalid Rapporteur: Eng. Arsene Mukubwa	Moderator: Dr. Malte Grossmann Rapporteur: Mr. Leonard Akwany	<b>Moderator:</b> Dr. Rashid Mbaziara <b>Rapporteur:</b> Mr. Tom Waako	Moderator: Eng. Fekahmed Negash Rapporteur: Mr. Andy Tola
	Room MH 1+2	Room MH 3	Room AD 12	Room AD 10
	Enhancing and diversifying water sources: scanning the options for the Nile Basin	Environmental flows: how to use existing best practice in the Nile Basin region	Food security through basin-wide approaches of agricultural water management	Coordinated operation of cascade of dams, experiences from the Colorado Basin, USA
	Dr. Yassir Abbas	Prof. Michael McClain	Mr. Bart Hilhorst	Prof. Edith Zagona
ST:77 - S	Improved demand side management and use of non-conventional water;	Water requirements of Wetlands: Integrating wetland sustainable use and management in basin planning	The critical role of global and regional virtual water trade in the Nile Basin	Power inter-connection and energy trade, NBI's experience.
Þ:0	Dr. Mohammed Ahmed Hassan	Dr. Paul Ouédraogo	Dr. Ana Elisa Cascão	Mr. Ellicad Nyabeeya
τ	Groundwater as complementary water source	Integrated watershed management for protection of water source areas and sustainable livelihoods	Agriculture and Food Security in NBI's Strategy	Regional integration through hydraulic infrastructure: the economic arguments
	Dr. Seifu Kebede	Dr. Seifu A. Tilahun	Eng. Innocent Ntabana	Prof. Marc Jeuland
	Short interventions by additional panellists: Short interventions by additional panelists: panelists: Prof. Seifeldin Abdalla Eng. Alier Oka	Short interventions by additional panelists: Eng. Alier Oka	Short interventions by additional panelists:	New approaches for regional water-energy integration Prof. Julien Harou
	Dr. Yilma Sileshi Eng. Jackson Twinomujuni	Ms. Astrid Hillers Mr. Laisser Sadiki	Prof. Younis Gismalla Dr. Omer El-Awad	Short interventions by additional panelists:
	Mr. Francis Wajo	Ms. Lucy Iyango Mr. Francois Tetero	Dr. Badreldi Elhas Mr. Fred Mwango	Dr. kevin wneeler Prof. Abdalla Abdussalam Eng. Sowed Sewaggude Eng. Teshome Atnafie
	Discussion and audience Q&A	Discussion and audience Q&A	Discussion and audience Q&A	Discussion and audience Q&A
	Lunch	-		

Two parallel synthesis panels seek to further focus the discussions of the previous days and translate them into specific options for Nile Basin countries to take move their cooperation forward.

Synthesis Panel 1: Nile Cooperation, how to make the qualitative leap forward?  Moderator: Dr. Susame Schmeer Reporteur: Dr. Wubalem Felade, Mr. Tom Waako Room MH 1+2 Room MH 1+2 Room MH 1+2 Room MH 3 Cualitative leap in Nile Cooperation, reflecting on the outcomes of the paper and panel sessions, by Rapporteur Strengthening the dialogue: structured dialogue as a means for exploring NBF's 10 year strategy: Re-thinking regional investment and basin planning breakthrough options in transboundary cooperation  Dr. Abdulkorim Solmon (vio Skype) International water law perspectives Dr. Solmon Solmon (vio Skype) Dr. Lohn Nyaoro Eng. Florence Adongo Discussion: Q and A from audience, panel members reflection Discussion: Q and A from audience, panel members reflection Coffee Brenk
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In the Ministerial Panel, Ministers of Water Affairs will deliberate on the messages and possible solution pathways emerging from the 5<sup>th</sup> NBDF.

		Moderator: N Rapporteur: I	Reporting - Introduct - Panel disconsists - Pa	Closing Session Closing Session Words of thanks, Concluding rema
Ministerial Panel – moving the agenda forward together	Room MH 1 + 2	<b>Moderator:</b> Mr. Daniel Kalinaki, <b>Rapporteur:</b> Dr. Wubalem Fekade and Dr. Mohsen Alarabawy		Closing Session  Messages from the forum, by Dr. Wubalem Fekade  Words of thanks, by Executive Director of NBI  Concluding remarks by Development Partners



# ONE RIVER ONE PEOPLE ONE VISION



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# **NBI MEMBER STATES**

































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