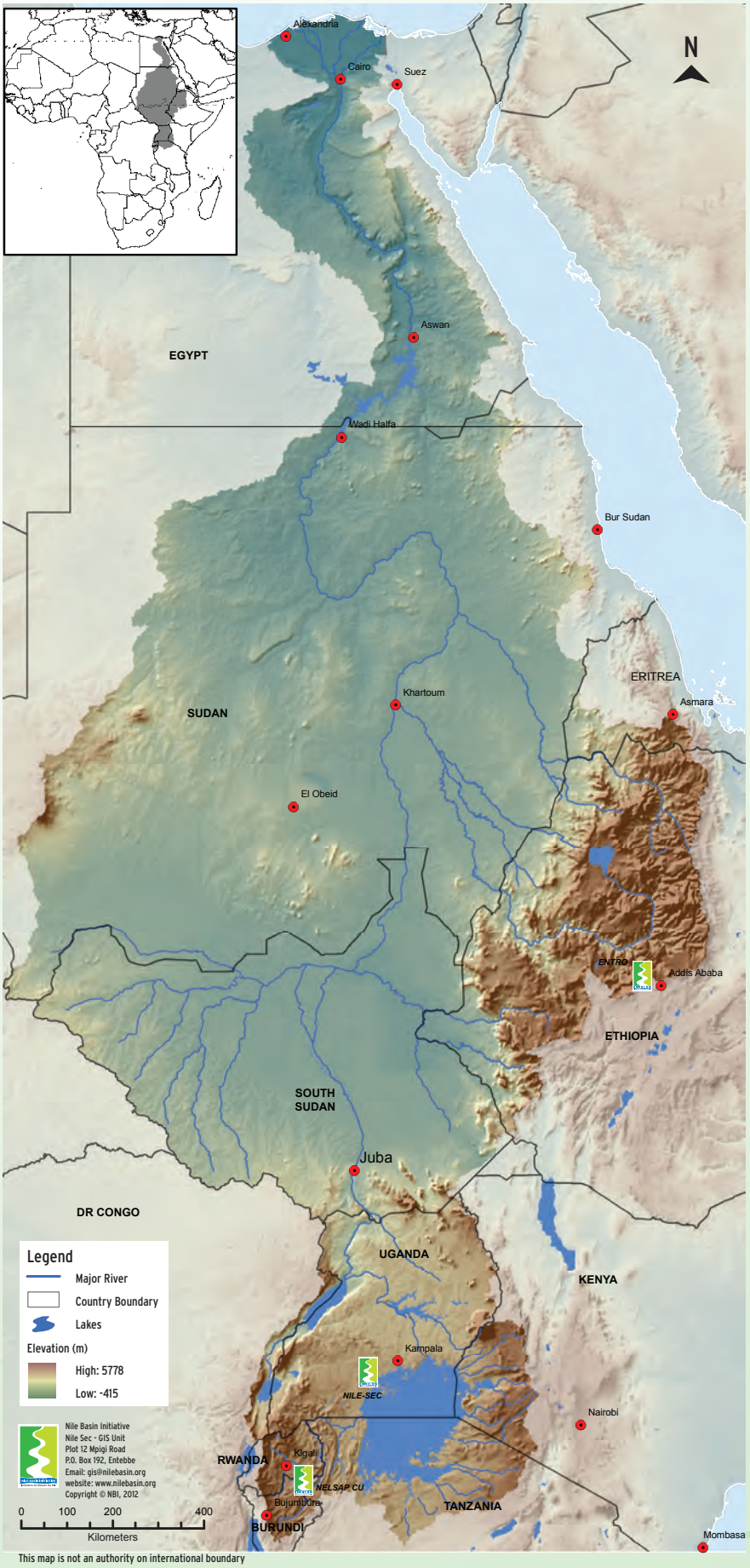
NILE BASIN INITIATIVE
Initiative du Bassin du Nil

One River One People One Vision

**2011 Edition: Please send your feedback to the NBI Secretariat**

# The Nile Basin

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Ministers in charge of Water Affairs and Representatives of the Nile Basin countries during the 19th Nile Council of Ministers' meeting held in Nairobi, Kenya - July 2011

## MEMBERS OF THE NILE COUNCIL OF MINISTERS

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MINISTER OF WATER, ENVIRONMENT, LAND MANAGEMENT AND URBAN PLANNING, BURUNDI

**HON. JOSE BONONGE ENDUNDO**
MINISTER OF ENVIRONMENT, NATURE CONSERVATION AND TOURISM, DR CONGO

**HON. PROF. HESHAM KANDIL**
MINISTER OF WATER RESOURCES AND IRRIGATION, EGYPT

**HON. ALEMAYEHU TEGENU**
MINISTER OF WATER AND ENERGY, ETHIOPIA

**HON. CHARITY KALUKI NGILU, EGH MP**
MINISTER OF WATER AND IRRIGATION, KENYA

**HON. AMB. STANISLAS KAMANZI**
MINISTER OF WATER, ENVIRONMENT AND NATURAL RESOURCES, RWANDA

**PROF. DR. SEIFELDIN HAMAD ABDALLA**
MINISTER OF WATER RESOURCES, SUDAN

**HON. PROF. MARK J. MWANDOSYA**
MINISTER OF WATER, TANZANIA

**HON. MARIA MUTAGAMBA**
MINISTER OF WATER AND ENVIRONMENT
UGANDA

## ABOUT THE NILE BASIN INITIATIVE

The Nile Basin Initiative (NBI) is an inter-governmental organization dedicated to equitable and sustainable management and development of the shared water resources of the Nile Basin. Member States include Burundi, Democratic Republic of Congo, Egypt, Ethiopia, Kenya, Rwanda, Sudan, Tanzania and Uganda. Eritrea and South Sudan participate as observers. The NBI was established on 22nd February, 1999 by Ministers responsible for Water Affairs in each Member State. These Ministers comprise the governing body known as the Nile Council of Ministers (Nile-COM) supported by the Nile Technical Advisory Committee (Nile-TAC). The latter is comprised of technical representatives from the Member States. The Nile-TAC offers technical support and advice to the Nile-COM on matters related to the management and development of the common Nile basin water resources and provides oversight for NBI programmatic activities. A Shared Vision and a Strategic Action Program to operationalise NBI were agreed upon to guide Nile cooperation.

## SHARED VISION

**TO ACHIEVE SUSTAINABLE SOCIO-ECONOMIC DEVELOPMENT THROUGH THE EQUITABLE UTILIZATION OF, AND BENEFIT FROM, THE COMMON NILE BASIN WATER RESOURCES.**

## NBI'S CORE FUNCTIONS

### FACILITATING COOPERATION

The NBI provides a platform upon which Member States can deliberate issues of trans-boundary water resources management and development.

### WATER RESOURCE MANAGEMENT

The NBI provides analytic tools and a shared information system that enables Member States to monitor and sustainably manage the Nile Basin's water resources.

### WATER RESOURCE DEVELOPMENT

The NBI assists Member States to identify development opportunities, prepare projects and seek investments. Development programs are focused on power trade and generation, agriculture and river basin management.

## NBI CENTERS

### NILE-SECRETARIAT

The Nile Secretariat (Nile-SEC) is the executive arm of NBI responsible for the overall corporate direction as delegated by the Nile Council of Ministers. It is also the lead centre for NBI's two core functions, namely 'Facilitating Cooperation' and 'Water Resource Management'. Nile-SEC is based in Entebbe, Uganda.

### EASTERN NILE TECHNICAL REGIONAL OFFICE

The Eastern Nile Technical Regional Office (ENTRO) is the executive arm of the Eastern Nile Subsidiary Action Program taking the lead in Water Resource Development in the Eastern Nile sub-basin (Egypt, Ethiopia and Sudan). ENTRO is based in Addis Ababa, Ethiopia.

### NILE EQUATORIAL LAKES SUBSIDIARY ACTION PROGRAM COORDINATION UNIT

The Nile Equatorial Lakes Subsidiary Action Program Coordination Unit (NELSAP-CU) is the executive arm of the Nile Equatorial Lakes Subsidiary Action Program (NELSAP) taking the lead in Water Resource Development in the Nile Equatorial Lakes sub-basin (Burundi, Democratic Republic of Congo, Egypt, Ethiopia, Kenya, Rwanda, Sudan, Tanzania and Uganda). NELSAP-CU is based in Kigali, Rwanda.

# Tanzania & the Nile Basin Initiative
# Benefits of Cooperation

"It is extremely important to work together to ensure peaceful co-operation with all riparian states in order to develop joint sustainable integrated water resources management programs with the objective of poverty eradication and to bring about economic prosperity in our countries."

**Hon. Prof. Mark J. Mwandosya (MP), Minister of Water**

This profile provides a brief description of the Nile Basin Initiative, the cooperation with Tanzania and highlights benefits of the cooperation. The benefits are results of more than a decade of cooperative effort in water resource management and development in the Nile Basin.

Tanzania has actively participated in NBI programs and projects since 1999, when the Initiaitve was established in Dar es Salaam. The Ministry of Water is the focal point government institution that coordinates NBI activities in Tanzania. The Minister of Water represents Tanzania on the Nile-COM. Similarly, two senior officials from the Ministry represent the country on the Nile-TAC. Steady progress is also being made in integrating NBI activities in the national plans.

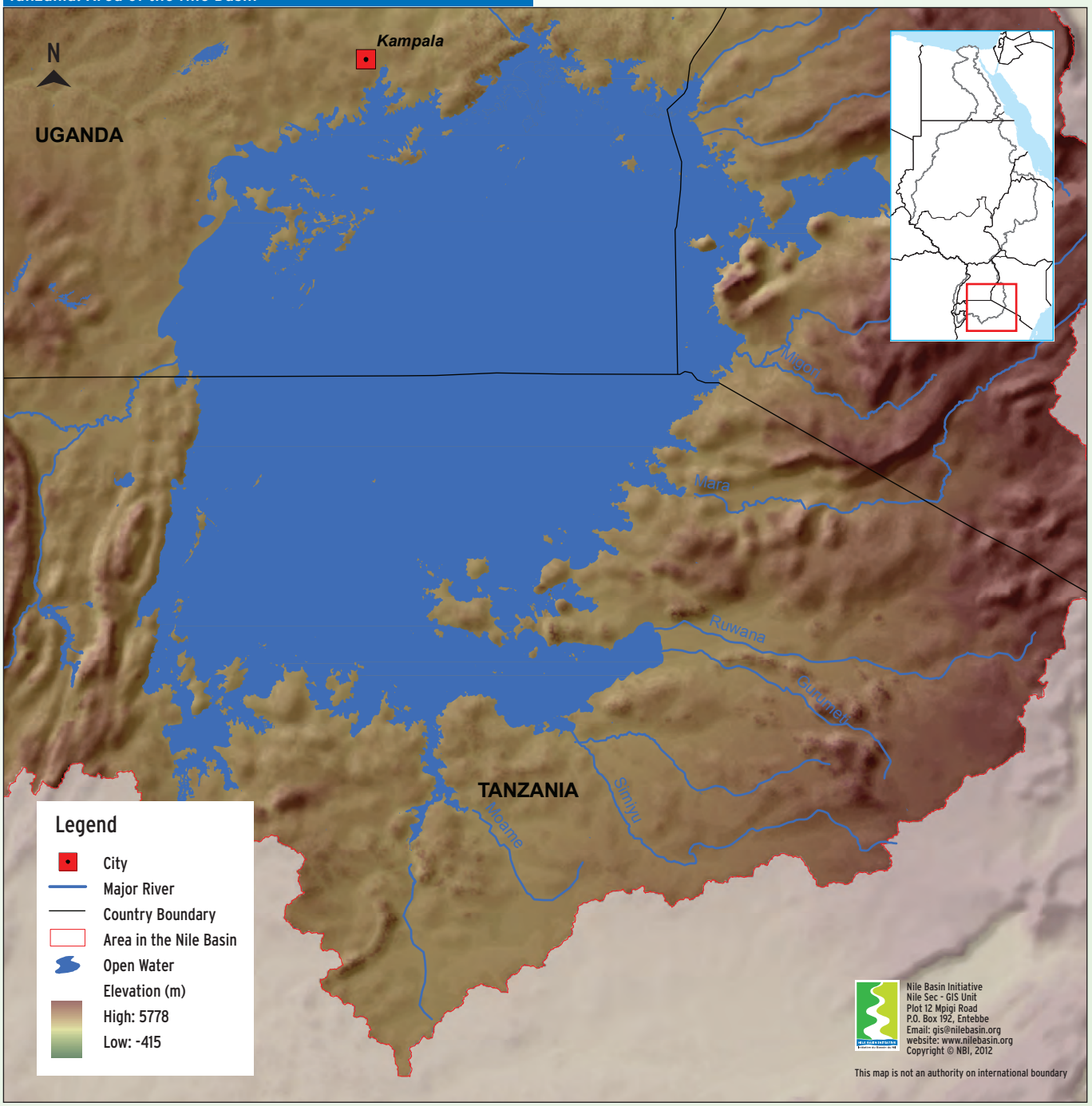
Tanzania provides office premises for two of NBI's Project Management Units, namely the Regional Power Trade Project (between 2004 and 2012) and the Mara River Basin Management Project (between 2006 and 2012).

The country also makes both cash and in-kind

| 937.7 | 118.5 | 12.7 | 44.8 | 10.1 | 22.6 |
|---|---|---|---|---|---|
| Country Area (1000 km$^2$)* | Area in the Nile Basin (1000 km$^2$)*** | % of Country Area in Nile Basin*** | Total Population in 2010 (millions)** | Population Living in the Nile Basin in 2010 (millions)*** | % population living in the Nile Basin*** |

Source: *CIA The World Fact Book; **UN Population Division; World Population Prospects; ***NBI Nile-Sec

Tanzania: Area of the Nile Basin




contribution annually towards NBI's (Nile-Sec and NELSAP-CU) operational costs. Cash contribution to Nile-Sec and NELSAP-CU is approximately USD 35,000 and USD 15,000 respectively.

Annual in-kind contribution is approximately USD 450,000. This contribution includes; supervision and technical guidance by members of the the Nile Equatorial Lakes Technical Advisory Committee (NEL-TAC) and the Nile-TAC, participation of Ministry officials in specialized meetings on NBI issues, hosting incoming NBI missions as well as telecommunications services. Furthermore, staff time through either secondment or direct hire of coordinators based on relevant sector institutions (Water, Power, Agriculture, Environment and Finance) is increasingly being devoted to NBI's different programs and projects.

Further in-kind contribution is in the form of hosting and financially contributing to regional events such as Nile-COM meetings, Nile Day which is celebrated annually on 22nd February and the Nile Basin Development Forum which is held every two years. In 2009, Tanzania hosted celebrations to mark NBI's 10th anniversary.

The Government of the Republic of Tanzania signed the Cooperative Framework Agreement (CFA) on 14th May 2010 in Uganda, to establish a permanent river basin organization that aims at ensuring the sustainable development and equitable utilisation of the common water resources of the Nile basin.

Unlocking the Nile Basin's Development Potential

# Benefits of Cooperation: Tanzania

The benefits to Tanzania are results of more than a decade of cooperative effort in water resource management and development in the Nile Basin. Broadly and at a basin-wide level the results include: the establishment of a transitional regional institution; the preparation of investment projects worth more than USD 1 billion; and the creation of scientific tools (e.g. Nile Basin Decision Support System) as well as capacity building (institutional and technical) for joint planning and management of the shared waters of the Nile Basin.

Tanzania derives benefits from NBI's facilitation in the following core areas:

- Water Resource Development: The NBI assists Member States to identify development opportunities, prepare projects and seek investments.
- Water Resource Management: The NBI provides analytic tools and a shared information system that enables Member States to monitor and sustainably manage the Nile Basin's water resources.
- Facilitating Cooperation: The NBI provides a platform upon which Member States can deliberate issues of trans-boundary water resources management and development.

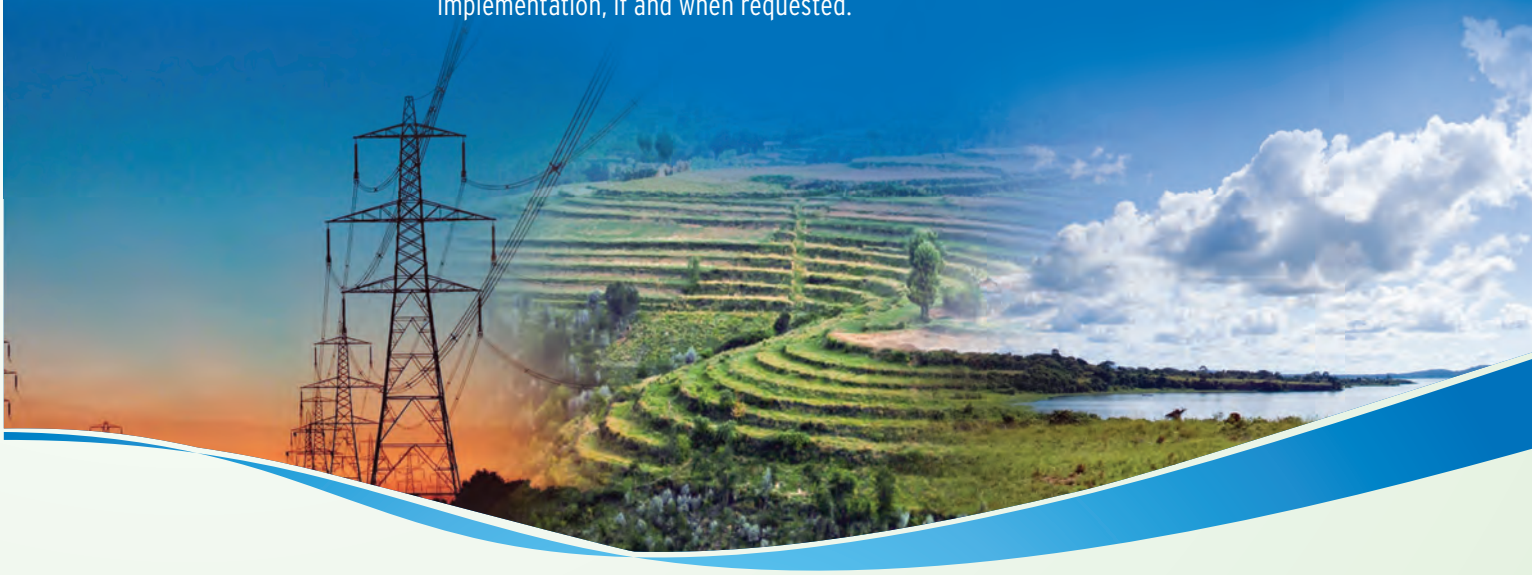
The benefits, some of which have already been realised while others are potential, are elaborated in the following pages.

# BENEFITS OF COOPERATION

## Unlocking the Nile Basin's development potential

## Water Resource Development

The NBI through its Subsidiary Action Programs (SAPs) promotes investments in three critical areas of priority to all Member States namely Power, Agriculture and River Basin Management. The role of NBI is to **identify opportunities** and **prepare investment projects** which contribute to economic growth and poverty reduction. The NBI **assesses costs** and **benefits** of participation in proposed joint projects and **facilitates agreements on cost-benefit sharing** among Member States who are party to joint projects. The NBI also supports investment **resource mobilization, preparation of multi-country agreements** and provides technical assistance in project supervision and monitoring during project implementation, if and when requested.



### POWER

Electrical power constitutes one of the areas where the Nile basin's infrastructure has fallen short of potential, but where cooperation is beginning to show tangible results. NBI has built regional capacities and provided a forum for dialogue for countries to promote power trade in the Nile Basin, by bringing together officials from national utilities and ministries in charge of electricity affairs in all Nile basin countries. Technical specialists and policy makers are working to build capacity to negotiate and manage power trade arrangements.

While possible transmission interconnections had been identified prior to the formation of the NBI, some even decades earlier, the Member States lacked the mechanisms to jointly prepare and advance the infrastructure and policy environment needed for power trade. Today, the NBI has filled this void by providing a platform for Member States to negotiate necessary agreements as well as conducting the detailed studies and preparation work necessary to advance the investment programs. As a result, Ethiopia and Sudan are now connected by transmission lines and multiple interconnections are underway in the Nile Equatorial Lakes region, with established protocols for sustained regional power trade. The enhanced infrastructure capacity and transmission in power interconnection will increase the countries' options and accessibility to cheap and reliable power.

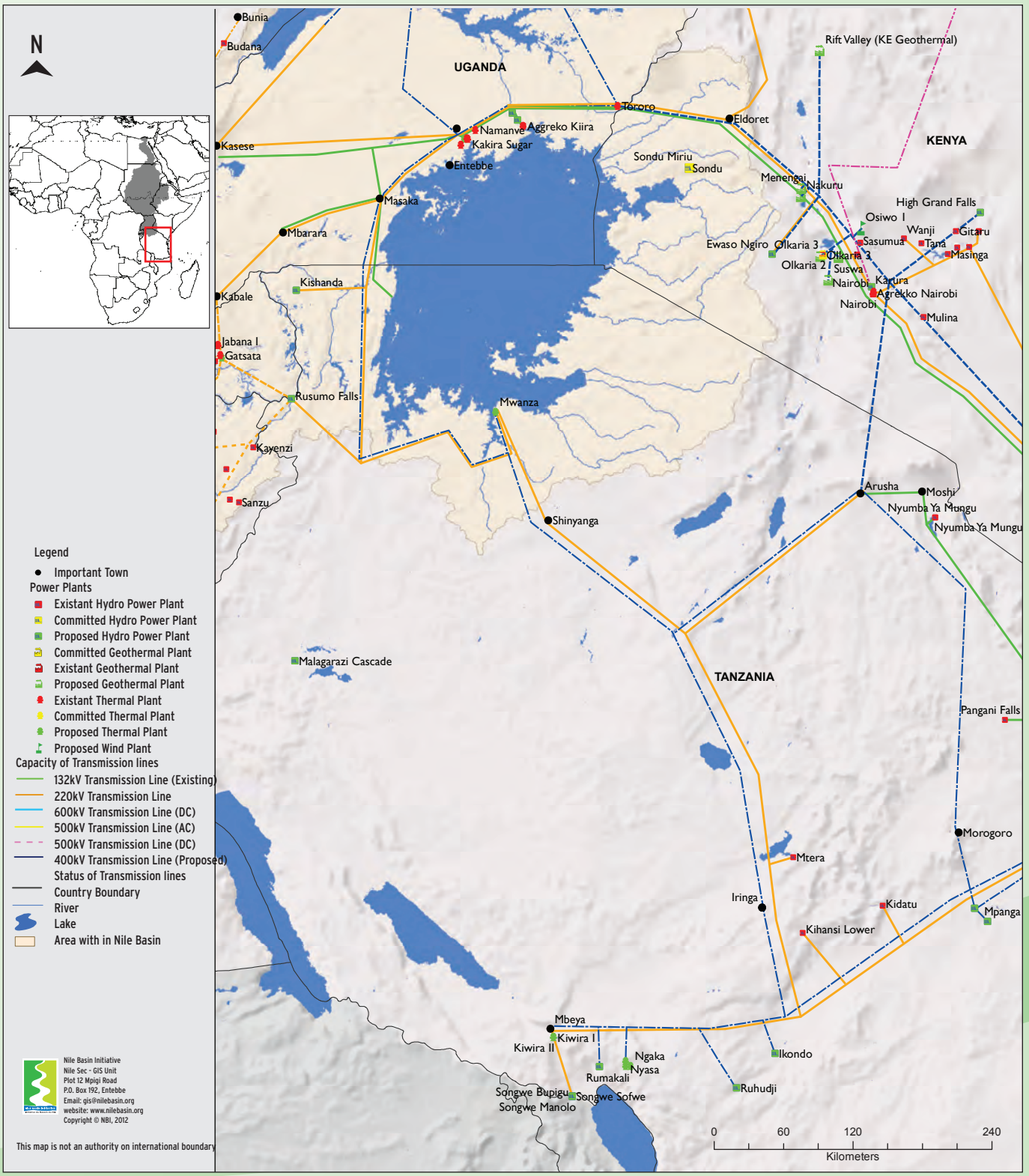
### AGRICULTURE

Agriculture plays a significant role in economic development of the Nile Basin countries and accounts for about one quarter of the Gross Domestic Product (GDP). The agricultural sector absorbs 30-92% of the labour force, reflecting the wide variation in the importance of agriculture in the region. The NBI has so far collected best practices in water harvesting, small scale and large scale irrigation and development of new schemes in the Nile basin, with the objective of improving water use efficiency and cross-country learning.

### RIVER BASIN MANAGEMENT

River basin management in the Nile Basin presents challenges that are national, regional and transboundary. Throughout the region, forests, woodlands and wetlands are continuously lost as the population seeks out new areas for grazing, farming or burning charcoal from trees. Joint action generates 'public goods' and reduces costs of extreme water events associated with climate variability and change such as floods and droughts. Joint river basin management enhances watershed management and conservation of the eco-systems thereby enhancing integrated water resources management and ensuring sustainable development.

# POWER OPTIONS & TRANSMISSION LINES IN TANZANIA





Nile Basin Initiative
Nile Sec - GIS Unit
Plot 12 Mpigi Road
P.O. Box 192, Entebbe
Email: gis@nilebasin.org
website: www.nilebasin.org



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POWER
Portfolio

# Regional Rusumo Falls Hydroelectric Project

**Total Planned Investment**
USD 430.0 million

**Project Preparation Cost**
USD 11.9 million

**Expected Commissioning Date**
2017

**Participating Member States**

**The Regional Rusumo Falls Hydroelectric Project will have an Installed capacity of 80 MW (Run of River Scheme at 1320masl) to be shared among Burundi, Rwanda and Tanzania. The power generation infrastructure will be located at Rusumo Falls on the border between Tanzania and Rwanda. The transmission lines will extend from the power generation plant to Gitega in Burundi, Kigali in Rwanda, and Nyakanazi in Tanzania.**

The Regional Rusumo Falls Hydroelectric Project is operated under NELSAP-CU and the Project Management Unit is located in Kigali, Rwanda.

**Project objectives**

- Increase additional generating capacity of 80 MW for meeting the ever rising demand of electricity in Burundi, Rwanda and Tanzania.
- Interconnect the national grids of Burundi, Rwanda and Tanzania.
- Facilitate power trading in the region.

## Before

No Regional Hydroelectric Project among Burundi, Rwanda and Tanzania. All the three countries are currently facing a shortage of power generation capacity to meet the current power demand.

## NBI Role

- Conducting feasibility studies.
- Carrying out project pre-implementation activities such as setting up a 'Special Purpose Vehicle Company,' an institution which will be responsible for implementing the project. The institution will be owned by the three beneficiary governments.
- Initializing dialogue between the three governments on one hand and Development Partners on the other for financing the project.
- Supporting the establishment of environmental and social monitoring guidelines for the project during and after implementation.
- Training personnel from the three beneficiary Member States with practical 'on-the-job' emphasis during the construction phase.

## Benefits/ Potential Benefits

- Reduction in the current power shortage by generating an additional 27 MW of electricity.
- Strengthened national power grids.
- Improved livelihoods and increased socio-economic activities in the districts of Ngara and Biharamulo.
- Reliability and security of power supply.
- Enhanced power trading within the region allowing Member States to sell surplus power within the region and also import power when in deficit.
- Promotion of economic development in the region-Small Medium Enterprises (SMEs), water supply, health and sanitation.
- Rural electrification by national utilities as more capacity will be available in the grids.
- Reduction in GHG emissions from diesel and other generation sources leading to reduced pollution and improved environment.

**An additional 27 mw of electricity per country out of the 80 mw generated by the project will contribute to reduction in the current power shortage.**

POWER
Portfolio

# Kenya-Tanzania Power Interconnection Project

**Estimated Total Project Cost**
USD 271.43 million

**Project Preparation Cost**
USD 3.4 million

**Participating Member States**

**It is expected that the interconnection will start from a proposed 400 kV substation at Isinya, 40 km south of Nairobi to Singida in Tanzania through Arusha. The total length of the proposed line will be 510 km. The project constitutes part of the regional power transmission backbone needed to create a regional power market. This project combined with the Regional Transmission Interconnection Project will result in the six upstream countries of Burundi, DR Congo, Rwanda, Uganda, Kenya and Tanzania being interconnected. The Project is coordinated under NELSAP-CU and the Project Management Unit is located in Kigali, Rwanda.**

**Project objectives**

- Improve access to electricity in NBI Member States through increased cross-border sharing of power between Kenya and Tanzania on one hand and within the region on the other.
- Connect the Southern Africa Power Pool (SAPP) through the Zambia-Tanzania Interconnection to the Eastern Africa Power Pool (EAPP) / Nile Basin Region.
- Increase reliability and security of power energy supply as well as the livelihood of the population living along the transmission line since the project includes a rural electrification component.

| Before | NBI Role | Benefits/ Potential Benefits |
|---|---|---|
| No power exchange between Kenya and Tanzania. | • Coordinating and managing the project preparation stage including supervising the study related to the project, assisting beneficiary Member States to mobilize funds for implementing the project as well as training and transferring technology for future operation of the project.<br>• Informing and creating awareness and cooperation surrounding implementation of the project among the communities residing in the project area.<br>• Providding a platform for dialogue between Kenya and Tanzania. | • Improved access to electricity in NBI Member States through increased cross-border sharing of power between Kenya and Tanzania on one hand and within the entire region on the other.<br>• Connection of the Southern Africa Power Pool (SAPP) to the Eastern Africa Power Pool (EAPP) / Nile Basin Region through the Zambia - Tanzania Interconnection.<br>• Increased reliability and security of power energy supply as well as improved livelihoods of the population living along the transmission line since the project includes a rural electrification component notably:<br>- Provision of electricity to communities.<br>- Electricity supply to rural towns replacing/reducing the consumption of woody biomass and petroleum products used for cooking, lighting, and motive power.<br>- Development in the agricultural related sector (irrigation pumps, poultry, animal husbandry, preservation of products).<br>- Promotion of small and medium scale industries (flour mills, rural water supply installations, tanneries, and coffee processing plants).<br>• Contribute to industrial growth, revenue gains, economic growth and reduction of transmission losses.<br>• Reduced/slow deforestation and soil erosion as women stop collecting firewood and water.<br>• Interconnection possibility to Ethiopia. |

POWER
Portfolio

# 400 KV Iringa - Mbeya Power Transmission Line Project

**Estimated Total Planned Investment**
USD 180.0 million

**Project Preparation Cost**
USD 3.067 million

**Participating Member States**

**The proposed 352 km long 400 KV Iringa - Mbeya Power Transmission Line will in future be part of the main 400 kV Interconnecting Kenya – Tanzania – Zambia. This line will offer interconnection possibility to South Africa power pool through Zambia. The two interconnections form part of the eastern power corridor connecting Eastern Africa countries to the Southern Africa countries. The Project is coordinated under NELSAP-CU and the Project Management Unit is located in Kigali, Rwanda.**

**Project objectives**

- Improve access to electricity in NBI countries through increased cross-border sharing of power within the region.
- Facilitate smooth power transfer to the northern part of the country and neighbouring countries such as Zambia in the south and Kenya, Uganda in the North.
- Link NBI/Eastern Africa Power Pool (EAPP) countries to Southern Africa Power Pool (SAPP).
- Increase reliability and security of power energy supply as well as improve livelihoods of the population living along the transmission line since the project includes a rural electrification component.

## Before

Currently there is a 220 kV transmission line between Mbeya and Iringa which is a weak link for future power trade.

## NBI Role

- Coordinating and managing the project preparation stage including supervising the study related to the project, assisting the beneficiary Member States in mobilizing funds for implementation of the project and training and transferring of technology for future operation of the project.
- Informing and creating awareness and cooperation surrounding implementation of the project among the communities residing in the project area.

## Benefits/ Potential Benefits

- Improved access to electricity in NBI countries through increased cross-border sharing of power within the region.
- Southern Africa Power Pool (SAPP) connected to the Eastern Power Pool (EAPP) / Nile Basin Region through the Zambia - Tanzania Interconnection.
- Increased reliability and security of power energy supply as well as improved livelihood of the population living along the transmission line since the project includes a rural electrification component notably:
  - Provision of electricity to communities.
  - Electricity supply to rural towns replacing/reducing the consumption of woody biomass and petroleum products used for cooking, lighting, and motive power.
  - Agricultural sector related development (irrigation pumps, poultry, animal husbandry, preservation of products).
  - Promoting small and medium scale industries (flour mills, rural water supply installations, tanneries, and coffee processing plants).
  - Reduced/slow deforestation and soil erosion as women stop collecting firewood and water.

AGRICULTURE
Portfolio

# Regional Agricultural Trade and Productivity Project


Focal areas for Pre-feasibility studies for irrigation schemes

Pre-feasibility studies for five irrigation schemes have been prepared covering the following focal areas: Biharamulo – 3994 hectares, Geita Plains – 3698 hectares, Katunguru – 1495 hectares, Simiyu Duma Valley – 5284 hectares, Suguti Valley (Musoma) – 4995

**Project Preparation Cost**
USD 7.0 million (Phase 1 & 2)

**Participating Member States**

**The Regional Agricultural Trade and Productivity Project will conduct studies that will highlight potential agriculture and agricultural trade opportunities in the Nile basin countries and beyond. It will also increase knowledge of basin agriculture in NBI institutions and promote more efficient and sustainable use of water resources and economically viable investment in agriculture. The Project is coordinated under NELSAP-CU and the Project Management Unit is located in Bujumbura, Burundi.**

**Project objectives**

- Define NBI future agricultural functions.
- Support productive water-use in basin agriculture.
- Incorporate agriculture trade into basin water resource planning.

## Before

- Absence of decision support tools for Agricultural Investments.
- No consistent information on irrigation potential available.
- Lack of user friendly training materials on best practices in water harvesting and small scale irrigation.
- Scattered information on trans-boundary agricultural trade Issues.
- Water footprint and comparative advantage not documented and used by countries.

## NBI Role

- Defining Nile Basin Member States' core agricultural functions.
- Extending the Nile Basin Decision Support System (Nile-DSS) to agricultural decision tools and integrating agricultural data and information into the Nile-DSS.
- Assessing irrigation potential in selected Nile Equatorial Lakes countries and preparing pre feasibility studies for at least four irrigation schemes per country
- Preparing and disseminating training materials on best practices in Rain water harvesting and small scale irrigation.
- Conducting analysis of selected cross border trade corridors and identifying potential investments in Agricultural cross border trade.
- Analyzing and documenting virtual water and water foot print for major commodities.

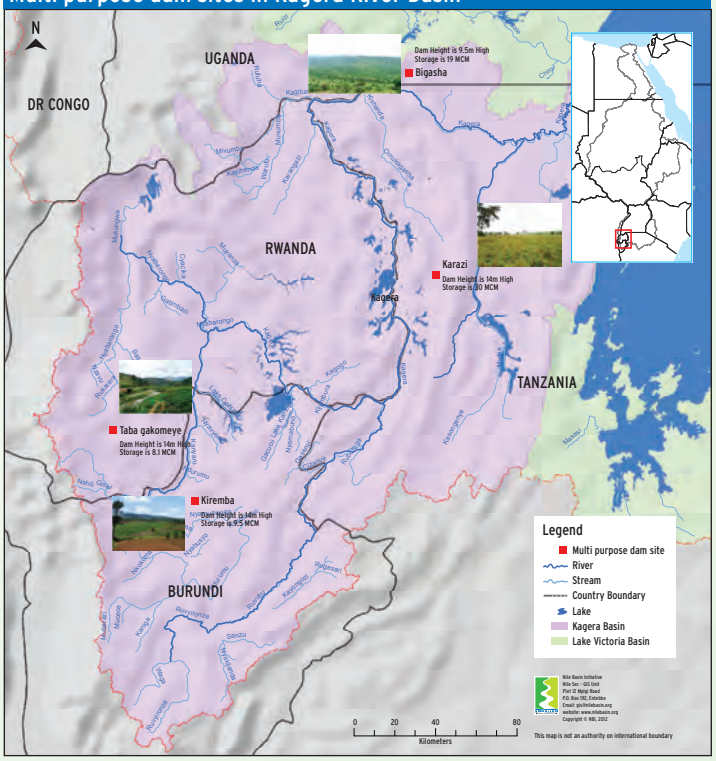
## Benefits/ Potential Benefits

- Informed decision making in agricultural policies and investments.
- Pre-feasibility studies for four to five irrigation schemes prepared for each Member State for resource mobilization.
- Trained people and prepared materials on best practices in water harvesting and small scale irrigation.
- Policies and investment profiles available to beneficiary Member States to improve regional trade.
- Policy options on virtual water/ water footprint developed and used in investment decision making by Nile Basin countries.

# RIVER BASIN MANAGEMENT
Portfolio

## Kagera River Basin Management Project

Multi purpose dam sites in Kagera River Basin




**Total Potential Investment**
USD 500.0 million

**Project Preparation cost**
USD 10.19 million (Phase 1 & 2)

**Expected Start Date of implementation**
January 2013

**Participating Member States**

The Kagera basin area has insufficient water for household use and for grazing despite the abundant water sources found in the area. Wetlands have been exploited and degraded, and there is cross border migrations of pastoralists which causes conflicts. Cooperative water resources management offers unique opportunities as catalysts for greater regional integration both social-economic and political with potential benefits exceeding those derived from the river itself. The Kagera River Basin Management Project aims at developing tools and permanent cooperative mechanisms for the joint management of the water resources in the Kagera River Basin and to protect the environment. The Project is coordinated under NELSAP-CU and the Project Management Unit is located in Kigali, Rwanda. In Tanzania, the project is operational in the districts of Ngara and Kyaka.

**Project objectives**

- Establish a sustainable cooperative framework for joint management of the shared water resources of the Kagera River Basin.
- Develop an investment strategy and conclude pre-feasibility studies.
- Build capacity at all levels for sustainable management and development of the Kagera River Basin.
- Implement small scale investment projects that provide early tangible benefits to the population and promote confidence in the cooperation on the Nile.
- Facilitate Lake Victoria Environmental Management Project II (LVEMP II) preparatory activities for Rwanda and Burundi.

**Before**

- No legal and policy framework between the Kagera Riparian countries (Burundi, Rwanda, Tanzania, Uganda) for joint and transboundary development and implementation of shared water resources.
- No joint investment projects with transboundary aspects and benefit sharing.
- Inadequate capacity in water resources planning and development.
- Lack of confidence in what NBI/NELSAP can do to promote the socio-economic welfare of riparian populations and protect the environment.
- Rwanda and Burundi were not part of the LVEMP II.
- Lack of preparedness for climate change adaptation in the Kagera basin.

**NBI Role**

- Preparing the following:
  - Policy and legal framework for enhanced cooperation in the basin.
  - The Kagera Basin Investment Strategy focusing on big dams.
  - Monograph and Kagera Data Base.
  - Feasibility studies for four small multipurpose projects, one in each riparian country.
  - Pre-feasibility studies for eight large dams in the Kagera Basin.
  - Regional hydrometric network equipment and installation of equipment in the Kagera basin.
  - Small scale projects for rural water supply and afforestationas well as their implementation.
  - Projects for Integrated Water Resources Management (IWRM) in the Kagera Basin targeting environmental degradation reversal in the Kagera sub-catchments and wetlands.
- Building capacity of Kagera basin water resources officers and decision makers in IWRM through training and study tours.
- Reviewing the Kagera River navigability studies and proposing terms of reference for feasibility study.
- Facilitating consultancies of studies that allowed Burundi to join LVEMP II.

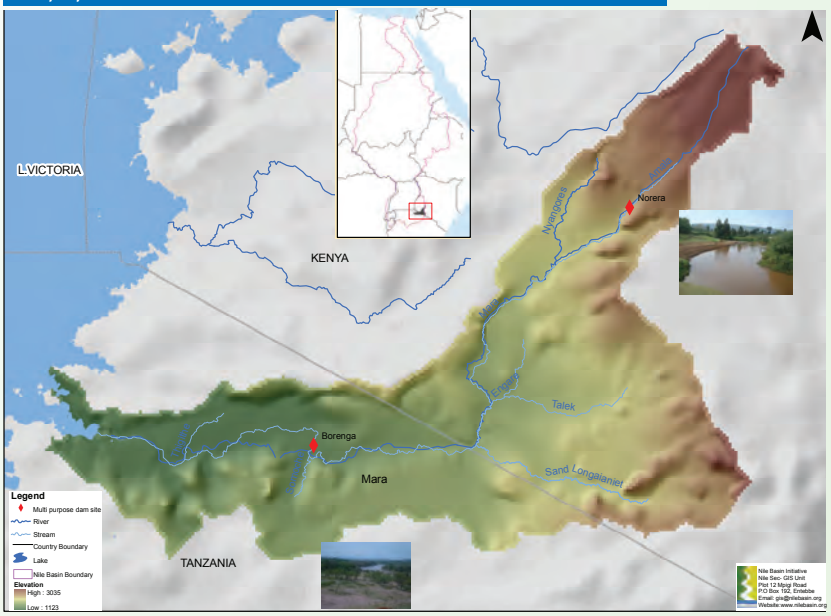
**Benefits/ Potential Benefits**

- A framework where joint planning and management of the Kagera River water resources will take place for improved socio-economic development of the basin and reduced/minimized potential water related conflicts provided.
- Data and information for basin-wide planning and development provided.
- Provision of IWRM basin wide plan that will facilitate water resources planning for sustainable management of the Kagera Basin.
- Rehabilitation of hydrometric network that will allow better water resources monitoring and planning.
- Increased capacity in water resources planning and development in the Kagera region at the local, district and national levels.
- Feasibility studies for multipurpose dams prepared. These studies are expected to result in bankable investment projects in watershed management and multipurpose dam infrastructure. Their further development will provide water for food production through irrigated agriculture, livestock and domestic use in addition to electricity to rural towns thus reducing the consumption of wood and hence deforestation.
- Reduced soil erosion and loss of vegetation cover through community environmental projects.
- Increased climate change adaptation preparedness through appropriate adaptive mechanisms.
- Better environmental protection of the Lake Victoria Basin through LVEMP II that allowed joint planning and management of the basin.
- Safe drinking water supplied to communities in Ngara, through small scale projects.
- Afforestation carried out in Ngara.

- **A feasibility study for Karazi dam has been prepared. Development of the dam will provide electricity to rural towns.**
- **Safe drinking water supplied to communities in Ngara, through small scale projects.**
- **Afforestation carried out in Ngara.**

# Mara River Basin Management Project

Multipurpose Dam sites in Mara River Basin




**Total Potential Investment**
USD 200.0 million

**Project Preparation Cost**
USD 7.66 million (Phase 1 & 2)

**Participating Member States**

The Mara River Basin is shared by Kenya and Tanzania. The basin is experiencing environmental degradation, primarily because of increasing population pressure. This has led to deforestation, increased soil erosion, increased effluent discharges into the river, pollution from mining activities, and threats to fishing in the lower reaches of the river. The environmental degradation of the basin is closely linked to its socio-economic development. Poverty leads to over-use of the basin's resources, while the degradation reduces the ability of the resource base to provide a sustainable livelihood. These issues cross national borders and require 'a whole of' basin approach to their management.

The Mara River Basin Management Project facilitates Kenya and Tanzania to develop a sustainable cooperative framework; jointly identify, prepare, develop and manage water infrastructure projects and watershed restoration and build the capacity of staff with a view of ensuring water security, food security and poverty reduction and thus improved standards of living of the riparian communities.

The Project is coordinated under NBI's Nile Equatorial Lakes Subsidiary Action Program Coordination Unit, based in Kigali, Rwanda. The Project Management Unit is located in Musoma, Tanzania. The project is operational in four districts of Tarime, Serengeti, Musoma and Rorya.

**Project objectives**

- Establish a sustainable cooperative framework for the joint management of the shared water resources of the Mara River Basin.
- Develop an investment strategy and conduct pre-feasibility and feasibility studies.
- Build capacity at all levels for sustainable management and development of Mara River Basin.
- Implement small-scale investment projects to build early confidence among the Mara River Basin communities.

## Before

- No joint Identification, preparation, development and management of investments in water resources by the two countries.
- Hydro-meteorological monitoring network coverage was far from satisfactory.
- No joint investment projects with trans-boundary aspects and benefit sharing.
- Inadequate capacity in water resources planning and development.
- Lack of understanding and confidence in what NBI/ NELSAP can do to promote the socio-economic welfare of riparian populations and to protect the environment.
- Lack of preparedness for climate change adaptation in the Mara basin.
- Lack of joint identification, planning and management of trans-boundary water resources projects.

## NBI Role

- Harmonizing the legal, institutional and policy frameworks for the two beneficiary Member States.
- Identifying large scale development investment opportunities in the basin.
- Conducting pre-feasibility and feasibility studies for the identified large-scale development projects.
- Training staff at national and basin levels.
- Sensitizing the community about environmental management issues and development options.
- Establishing basin wide sustainable hydro-meteorological network and baseline for water quality.
- Implementing selected small-scale irrigation, water supply and environmental management projects.

## Benefits/ Potential Benefits

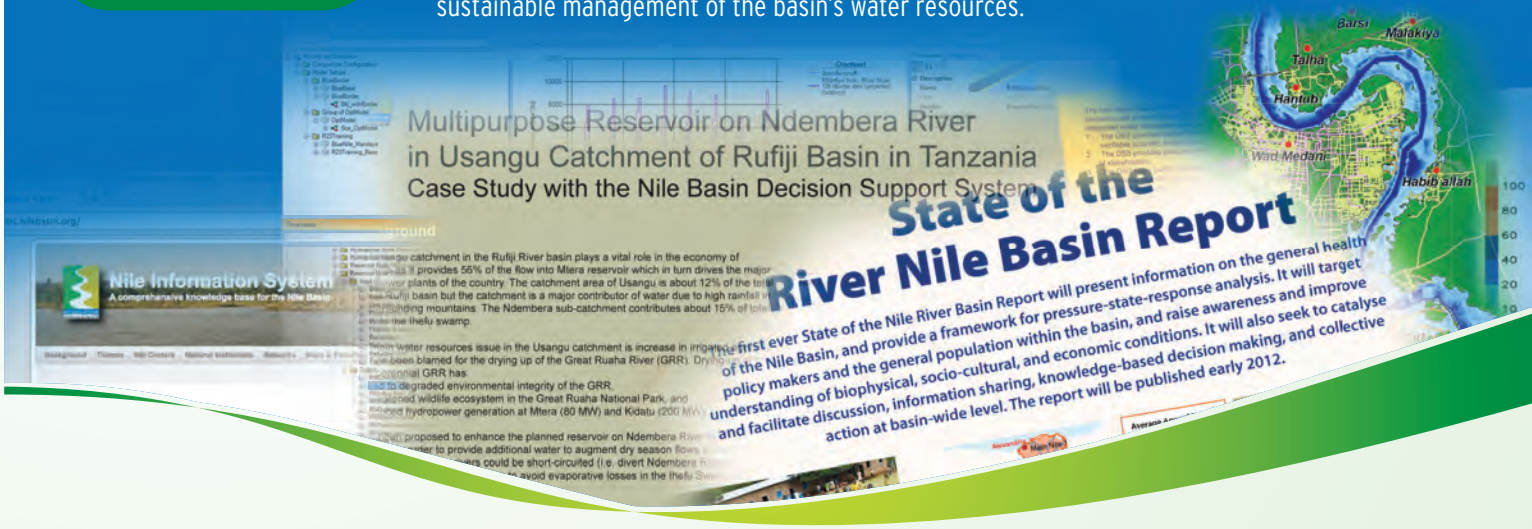
- More than 5,000 residents provided with water for irrigation, livestock and domestic purposes as a result of construction of Bisarwi small holder irrigation dam.
- Hydro meteorological monitoring stations installed along Mara River.
- Trans-boundary policy frameworks, policies, guidelines, data and information base for water resources management developed.
- At least 10,000 residents of Kayanga town, Karagwe district provided with clean water following construction of Kayanga water supply system.
- Borenga medium dam will provide water for irrigation, domestic water supply, fisheries and flood control.
- Framework for trans-boundary sustainable joint management of the Mara River sub-basin will enhance cooperation with Kenya.
- Increased power production, accessibility and reliability, leading to economic growth and better quality of life.
- Enhanced watershed management leading to increased land productivity, food security, water conservation as well as increased and good quality flows.
- Enhanced management and income from tourism and wildlife.
- Enhanced and sustainable utilization of wetland products for improved livelihoods.
- Expansion of irrigated agriculture, improved productivity of existing small and large scale agriculture through efficient water use.
- Better positioning to adapt to climate change through water infrastructure projects.

**Communities have benefited from construction of various small scale projects such as:**

- **Bisarwi small holder irrigation dam providing 5,000 people with water for domestic use, irrigation and live stocks;**
- **Kayanga water supply system providing 10,000 residents of Kayanga town in Karagwe district with clean and safe water.**

# Water Resources Management

To ensure equitable and sustainable use of the common water resources across the basin, the NBI has intensified its efforts to **provide state-of-the-art** water resource management tools and expertise. The NBI **monitors and assesses** the water related natural resources of the Nile basin so as to provide its Member States with a shared knowledge base and an interactive Information system that facilitates choices for planning options. It also **maintains and operates** analytical and scenario evaluation systems that support informed decisions on sustainable management of the basin's water resources.




**Basin-wide Benefits**

- **The first ever State of the River Nile Basin Report.** This strategic-level document presents a basin-wide picture of prevailing physical and socio-economic conditions, pressures and threats to the water and environmental resources of the basin. It also assesses the potential of the water and related natural resources of the basin to meet common development goals as well as opportunities for collaboration among Member States. The report further provides an invaluable summary of key indicators of the health of the Nile Basin that can be used to inform decision-making from a basin-wide vantage. The first edition presents a baseline for the basin while subsequent reports to be published every three years will present trends over time.
- **Nile Basin Decision Support System (Nile Basin-DSS)**. This is a state-of-the-art tool providing Member States with a common analytic platform and knowledge base to support the cooperative development of the Nile Basin water resources. NBI in collaboration with Member States has piloted the tool to answer questions relating to the physical system of the Nile including river flow patterns, past and present trends in climatic variables versus stream flows, and the water balance in different parts of the system. More importantly, the Nile Basin-DSS is being used to answer questions about expected benefits and potential impacts of planned development interventions. **Tanzania has so far used the tool to conduct a pilot case on, 'Multipurpose reservoir on Ndembera River in Usangu catchment of Rufiji Basin'.**
- **Technical support in water policy.** Technical support is provided to strengthening the national water policy framework with a key focus on strengthening the consideration of the trans-boundary dimension (so far Kenya and Rwanda supported).
- **Support for Basin-wide information exchange.** A mechanism for basin wide exchange of information and prior notification for water resources development following the adoption by the Nile-COM in July 2009 of the Nile Basin Data and Information Sharing and Exchange Interim Procedures.
- **Investment in basin human resources.** Increased human capacity including Post Graduate training in Integrated Water Resources Management.
- **Nile Basin Sustainability Framework (NBSF).** This is a suite of policies, strategies and guidelines used by NBI to ensure that its activities with regard to the Nile Basin water resources are in accordance with the principles of integrated water resources management.
- **Nile-Information System (Nile-IS).** This enables sharing of information across NBI centers and access to information by NBI governance, Member States' institutions, media practitioners, researchers and the general public. The system complements other NBI information and knowledge tools such as the online library, archives, website and the intranet.

**The first ever State of the River Nile Basin Report as well as the State-of-the-art Nile Basin Decision Support System are some of the water resources management products/tools developed by NBI.**

# Facilitating Cooperation

Of the estimated total population of 424 million in the Nile basin countries, more than half i.e. 54% (232 million) live within the Nile Basin (United Nations Population Division, 2010). Despite the basin's natural and environmental endowments and opportunities for growth, its people face increasing water scarcity, deteriorating water quality, lack of access to electricity, climate change impacts (such as droughts, floods) as well as uneven levels of economic development.

Water resources related drivers of poverty and under development in the basin can be addressed only through cooperative management and development of the common Nile basin water resources. This fact was the impetus for the formation of the Nile Basin Initiative.

**"Sharing of resources and in particular water resources is a complex issue that requires goodwill and commitment of all the riparian parties to trans-boundary waters. Ten years ago there was an atmosphere of mistrust, suspicion and doubts among Nile basin countries.....As such, countries were not willing to share data and information on their water resources for planning purposes." H.E. Dr. Ali Mohamed Shein, Vice President of the United Republic of Tanzania speaking as Guest of Honour during the opening ceremony of celebrations to mark the 10th anniversary of the Nile Basin Initiative held in Dar es Salaam – December, 2009.**

The NBI is the unique platform for Member States to facilitate, support and nurture cooperation amongst the Nile Basin countries so as to promote timely and efficient joint actions required for securing benefits from the common Nile Basin water resources. This platform enables Member States to continue to benefit from opportunities of cooperative water resources management and development, building upon the more than USD1 billion in investment leveraged to date.

**Basin-wide benefits**

- A platform where NBI countries, through Nile-COM and Nile-TAC regularly deliberate on cooperative management and development of the shared water resources of the Nile Basin.
- A forum for technical exchange of ideas and experiences in river basin management, agriculture production and productivity as well as power generation and trade through various Project Steering Committees and Task Forces.
- Basin-wide power development and trade options identified to limit power shortfalls, increase access to electricity and reduce cost of power.

**Potential benefits beyond water**

- Increased economic growth due to increased and stable power supply, bigger regional markets and cross border trade.
- Overcoming associated impacts of climate change such as extreme events (floods and droughts) that lead to loss of life, serious water scarcity and food shortage.
- Enhanced regional peace, security and political stability, ensuing from regularised inter riparian collaboration.

**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

**Nile Equatorial Lakes Subsidiary Action Program – Coordination Unit**

P.O. Box 6759 Kacyiru
Kigali-Rwanda
Tel +250 788 307334
Fax +250 252 580100
Email nelcu@nilebasin.org
Website http://nelsap.nilebasin.org

**Eastern Nile Technical Regional Office**

P.O. Box 27173-1000
Addis Ababa - Ethiopia
Tel +251 (0) 116461130
Fax +251 (0) 116459407
Email entro@nilebasin.org
Website http://ensap.nilebasin.org

**Ministry of Water**

P.O. Box 9153, Dar es Salaam.
Tel +255 22 2452036
Fax +255 22 2452037
Email wm@mowi.go.tz