



# Eastern Nile at a Glance



“We Work to realize shared benefits of Cooperative Water Resources Development and Management in the Eastern Nile”



Egypt



Ethiopia



Sudan



South Sudan



## Introduction

The Nile, with a total length of 6,695 km, is the world's longest river. It is shared by 11 African countries. The Nile is an asset of extraordinary regional and global importance. The Eastern Nile Basin (ENB), consisting of Egypt, Ethiopia, South Sudan and Sudan supplies up to 90% of the annual Nile flows; however, its contribution is highly seasonal.

ENB covers some 1.7 million km<sup>2</sup> and comprises of four sub-basins: the Baro-Akobo-Sobat-White Nile, the Abbay-Blue Nile, the Tekeze-Atbara and the Main Nile from Khartoum to the Nile delta. The ENB hosts over a quarter of a billion inhabitants.



## Hydrology

ENB is perhaps the most important part of the Nile Basin. Its significance is not only because of its geo-hydro-political relevance or the fact that it is home to over half the population of the entire Nile Basin (important as these are), but also because of the hydrological significance of the river Nile that courses through it.

The ENB is a water scarce region. About 86% of the waters of the Nile are generated in very limited watersheds of the highlands of Ethiopia (16% of the total area of ENB) and for most of its course, of nearly 7000 km, the Nile flows through desert, incurring huge evaporation and conveyance losses. Climate change impacts are making the availability of water even more unreliable, alternating unpredictable sequence of extreme drought and flood years.



## Socio-economics of ENB

A large proportion of the populations of the four Eastern Nile basin countries fall within the basin, except for Ethiopia. Medium term projections show that the populations of the four ENB countries will increase from around 215 million to about 305 million by 2030. Most of the people of the EN live below the poverty line, and being agrarian, are intimately dependent on the natural resource base for their livelihood and for food and nutrition security. A growing population will not only increase the demand for water resources, but will also affect food and nutrition security levels.

## Agriculture and Irrigation

The ENB provides a good opportunity for the production and consumption of a variety of crops, fish, livestock, and forestry products. Irrigation development is considered one avenue to increase land productivity and poverty reduction through multiple harvesting of subsistence and high value-marketable crops. Currently some 5.3 million hectares of land is under irrigation in the Eastern Nile (3.45, 0.91, 0.5, 1.76 million hectares in Egypt, Ethiopia, South Sudan and Sudan respectively). Rain-fed agriculture is dominant in upstream and midstream countries of Ethiopia, South Sudan, and Sudan. However, unpredictable rainfall patterns in the EN are major challenges to agriculture, contributing to low yields, food insecurity and to massive poverty, especially in the upper catchments.



## Energy Security

There is substantial untapped hydropower potential in the EN, however, with the exception of Egypt, energy supply in the NBI countries remains inadequate, unreliable and expensive. Current use of the ENB's hydropower potential is no more than 8%. The ENB relies on biomass-sourced energy which, besides continuous depletion of its source, is resulting in land degradation, soil erosion and habitat loss. Demand for energy in the basin is expected to increase from 37 GW in 2015 to 96 GW by 2030, an increase of 260 %.



## Ecosystems and Biodiversity

The ENB is home to globally significant terrestrial and aquatic habitats, ecosystems and biodiversity. The ENB hosts some important eco-regions with their specific association of flora and fauna, including the Ethiopian highland montane grasslands and woodlands, the Sudanese Savannah and Sahelian Acacia. These eco regions are home to the last remaining large mammals including elephant, buffalo, giraffe, lion, cheetah, white eared kobo, gazelles, including their majestic annual migrations, ENB is also home to important equatorial wetlands such as the Machar Marshes and the Dinder Mayas. ENB Wetlands play crucial roles in maintaining environmental quality; sustaining livelihoods; and maintain biodiversity.



## The Need for Cooperation: The Eastern Nile Subsidiary Action Program

The River Nile is one connected system; infrastructure development taking place in upstream countries affects downstream countries, and vice versa. Therefore, unilateral, uncoordinated, and exclusively national focused water resources development and utilization has the potential to generate conflicts among countries and will also result in the violation of the hydrologic unity of the Nile (Nile's continuity and functioning from source to terminus as one river system will not be ensured). Under such conditions important Nile-dependent habitats of global significance and flora and fauna therein; important ecosystem and environment functions might be lost irreversibly.

Recognizing the potential gains from cooperation, nine riparian states established a partnership institution, the Nile Basin Initiative (NBI), in 1999. NBI aims to realize a shared vision which is to “achieve sustainable socio-economic development through the equitable utilization and benefit from the common Nile Basin water resources”.

ENSAP- the Eastern Nile Subsidiary Action Program- is an investment program under the NBI implemented by Egypt, Ethiopia, Sudan, and South Sudan. ENSAP seeks to develop the water resources of the EN in a sustainable and equitable manner to ensure prosperity and security for its entire people.

ENTRO- Eastern Nile Technical Regional Office- is the executive arm of ENSAP. ENTRO, headquartered in Addis Ababa, Ethiopia, was established in 2002. The Eastern Nile Council of Ministers (ENCOM), comprised of Ministers in charge of Water Affairs of the member countries, is the highest political and decision-making body.

### Eastern Nile Country Data

Country	Area (Km <sup>2</sup> )	Irrigated Land (million ha)	% of Area falling within Nile Basin	Total Population in millions (2015)	% of Population in ENB	Gross Domestic Product (GDP) Per Capita (in US dollars)	Electricity Generation in 2015 (in Gigawatt hours)	Access to Electricity (% of population)
Egypt	1,010,408	3.45	30.3%	91.5	94	12,671	196,334	100
Ethiopia	1,144,035	0.91	31.9%	99.4	38	2,229	14,688	42.9
South Sudan	635,150	0.5	97.7%	12.2	99	1,525	474	8.9
Sudan	1,864,049	1.76	74.9%	36.1	87	4,700	14,662	38.5



Tel: +251 (011) 6461130/

+251 (011) 6515660

E-mail: [entro@nilebasin.org](mailto:entro@nilebasin.org) / [entro@ethionet.et](mailto:entro@ethionet.et)

Website: [www.nilebasin.org/entro](http://www.nilebasin.org/entro)

P.O. Box 27173-1000 / Dessie Road,

Addis Ababa, Ethiopia

July 2018