

THE ENGINEERS FORUM 2018

THEME:

***Sustainable
Use of the Nile Waters –
The Engineer's Perspective***

ORGANISED
BY



For Professional Excellence



Ministry of Works
& Transport



Ministry of water &
Environment

GUEST OF HONOUR

**H.E. YOWERI KAGUTA
MUSEVENI, The President
Of the Republic of Uganda**

WHEN

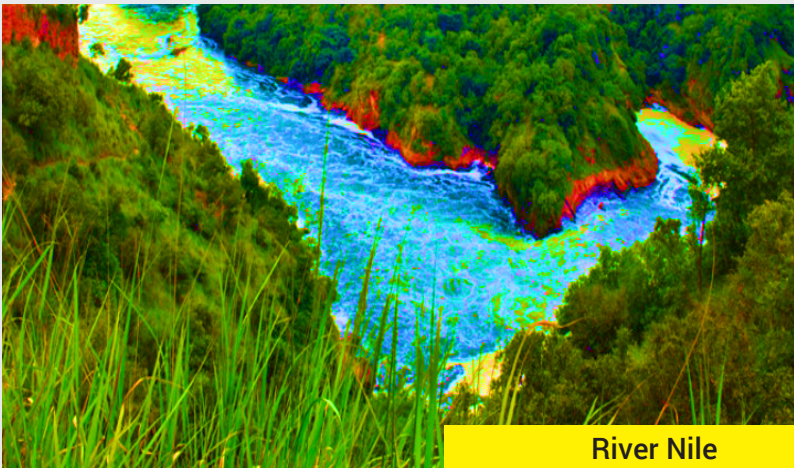
25-26 October
2018

VENUE

HOTEL AFRICANA
KAMPALA

The Engineers Forum 2018- Sustainable Use Of Nile Waters

Engineers Registration Board (ERB) is the competent authority established by the Engineers Registration Act (ERA) 1969 to regulate and control the practice of engineering in Uganda. The Engineers Forum is a major event in the annual calendar of the Board and provides opportunity to engineers to network and discuss topical issues in furtherance of the profession in the country. This year's Forum shall be held in Kampala on 25-26 October 2018. Proceedings shall focus on the Nile River, its waters, developments aspiration of the riparian countries and the opportunities available to engineers to contribute to sustainable use of the water resources.



River Nile

Flowing northwards through the tropical climate of Eastern Africa into the Mediterranean Sea, the Nile is the longest river in the world at 4,258 miles (6,853 km) draining an area of 3.35×10^6 km², which covers 10% of the African continent. In effect through its two main tributaries i.e. White Nile and Blue Nile it drains eleven countries namely Tanzania, Uganda, Rwanda, Burundi, DRC, Kenya, Ethiopia, Eritrea, South Sudan, Republic of Sudan and Egypt with a total population of 480 million people.

The 3700 km White Nile discharging 878 m³/s starts from the Lake Victoria basin in East Africa and joins with the 1,529 km 2349 m³/s Blue Nile from Ethiopian Highlands and that provides over 73% of the Nile waters at Khartoum in Sudan to form the mighty Nile River on its stately flow through the desert to the Sea. The White Nile contributes about 27% of the waters but is the longest tributary. There is wide disagreement of its true source with some positing



The New Nile Bridge - Jinja



Karuma Dam under construction

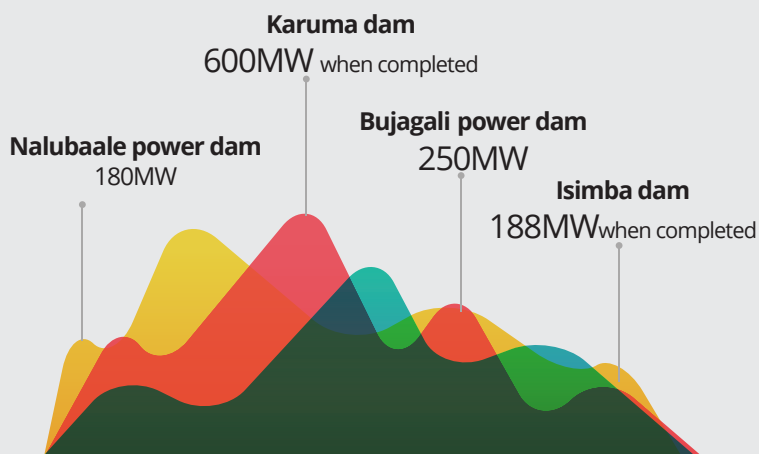
it to be in either Rwanda or Burundi at the head of the Kagera channel while other maintains the source to be at Jinja in Uganda. Still, experts disagree on which tributary of the Kagera is the longest, thereby being the most distant source of the Nile; while others talk of the Ruvyironza in Burundi, others posit the Nyabarongo from the Nyungwe forest in Rwanda. Of the eleven riparian countries three are significant in as far as Ethiopia is the largest water supplier while Egypt and Sudan are the dominant consumers. In fact the Nile River is the corner stone of the Egyptian foreign policy and the country always proclaims its rights to utilize the waters of the Nile which goes back into antiquity 5,500 years ago.

Through a large delta network the Nile flow volume is estimated at 300 million cubic meters per day passing in the course of a three-month journey on average serving a total population of about 260 million people along its valley, 85.8 million of which are in the Nile valley in Egypt. Such a huge population places huge demand for food, energy, and water on their countries thus heightening the needs for sustainably harnessing waters of the Nile to plug the development deficit. In terms of indicators, the urban populations in most riparian countries in the Nile (except Egypt) have low level of access to clean water and sanitation (50%), low capita consumption of electricity at only 200 kWh per year. Though Egypt posts better economic indicators amongst the eleven countries such as having highest per capita income USD 10,733 vs. Burundi at USD 747, collectively there is huge pressure on the waters and resources of the Nile to meet challenges of increasing population that is also urbanizing at a fast rate. Water quality is threatened by disposals of untreated industrial and agricultural wastes, sewage and municipal wastes. Global climatic changes also pose great threat to the volume of water available for development.

Riparian countries have each declared major development programs and projects hinged on use of the Nile waters which puts pressure on available quantities to satisfy needs of each partner state. The current state of development in the Nile basin include 5×10^6 ha of irrigated land 98.7% of which are in the climatically dry Egypt, a number of hydro-power dams along the basin, large hydro-power dams (including the 10.2million m³ Renaissance dam in Ethiopia yet under construction), water transport corridors, water guzzling manufacturing processes and others that combine to threaten equity in sharing of the available volume of water. The Jonglei canal in South Sudan was conceived in 1978 mainly to fasten the Nile flowing through the Sudd wetland of South Sudan to save 4.8million m³/year from evapo-transpiration losses and make available for development particularly irrigation. It has never been completed due to conflict in South Sudan.

Uganda's declared goal of transformation to middle income status is hinged, amongst others on hydropower generated from dams built on the Nile River. The presently operational Nalubaale and Bujagali power dams generate 180MW and 250MW respectively. Isimba and Karuma dams presently under construction shall produce 188MW and 600MW respectively when completed. Some years back, strange flora, the water hyacinth weed bloom erupted on the White Nile and greatly damaged fish stock and other economic use of the waters.

Hydropower generated from dams built on the Nile River.



Artistic impression of Isimba Dam

The Nile Basin Initiative of the 1999 seeks to foster and deepen relationship amongst riparian states in the use of the waters arising from concerns that uncoordinated exploitation of the Nile by riparian states could foster conflicts. There are deep seated historical claims of rights to the Nile especially by downstream countries versus emergent needs for the same waters by upstream countries for development. Accordingly, using available data and information engineers and hydrologists have the opportunity to participate in and influence the development path of their countries in ways that assures sustainability of the Nile and equity in sharing its water resources. Other great rivers of the world such as Amazon in South America, Mekong in South East Asia, Rhine in Europe, Yangtze in China have grappled with similar challenges of development and riparian rights as the Nile. In seeking to place engineers at the centre of the debate and action towards equitable use of the Nile waters, the conference will hear presentations from leading local and international experts on topics that include:

TOPICS

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| 01 | Nile Waters in the Social Economic transformation of Uganda |
| 02 | Satisfying the energy needs of the Country using Nile Waters |
| 03 | Nile Waters and potentials for guaranteeing food security |
| 04 | Environment concerns on the Nile plus mitigations |
| 05 | Egypt and the Nile – Key concerns and possible technical solutions |
| 06 | Riparian rights and obligations in exploitation of Nile Waters |
| 07 | Navigation potential of the Nile- from Source to "Mouth" |
| 08 | EAC Lake Victoria Basin Commission (LVBC) on Multi-National Maritime Communications and Transport program; |
| 09 | Experiences of engineering projects along the Nile |

Participants are expected to number 600 who will be drawn from local engineering community, national policy makers, regional and international bodies and professional organizations/associations/regulators, academia and civil society. It is expected that major resolutions and outcomes of the Forum will serve to inform and influence policy direction in the riparian countries to lead to a better engineering-led and data driven approach to sustainable exploitation of the Nile waters.

Conference Activities

Category	Venue	Date , Time & Amount
Dinner hosted By Chairman ERB for Foreign Delegates	Hotel Africana Gardens	24th October 2018 starting at 6pm
Engineers Forum	Nile Hall, Hotel Africana	8am-5pm, 25th-26th Oct 2018
Field Visit	To source of the Nile and Bujagali Power Dam in Jinja	cost of UGX 200,000 per head. Confirmations must be by 20th October 2018

Forum Attendance Fees

Ugandans

UGX 150,000

Foreign Delegates

Fees covered by ERB

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