

Uganda's oil activities: The new test in Nile Basin relations?

Diplomacy. Preliminary estimates by the Petroleum Authority show that around 75,000 cubic metres (m³) of water will be drawn from Lake Albert in mid-western Uganda. The water is available but in light of the already complex hydro-relations in the region, government wants to tread carefully, writes **Frederic Musisi**.

On the remote western edge of Uganda, the land nonchalantly drops down into the western arm of the Great Rift Valley to reveal the vast expanse of Lake Albert and the blue mountains of Congo and beyond.

It is here that early British explorers first stumbled upon oil seeps, which paved way for further geological surveys and drilling, which in 2006 confirmed that Uganda's oil reserves were commercial.

The reserves have jumped from 300 million barrels, 11 years ago, to now 6.5 billion barrels from the area — about 40 per cent of the basin better known as the Albertine Graben. And with more exploration licences doled out recently to

Australia's Armour Energy and Nigeria's Oranto while three other prospective blocks are still on the shelf, officials are confident about more discoveries.

South of the Lake Albert lies Exploration area 3 (EA3), site of the Kingfisher field which is expected to pump first oil; to the east of the lake is EA2 with five appraised oil fields—Kasamene-Wahrindi, Kigogole-Ngara, Nsoga, Ngege and Mputa-Nzizi-Waranga, and up north EA1, with several fields but only three — Ngiri, Jobi-Riji and Gunya operated by French Total E&P, for whose production licenses have been so far issued.

Given the numerous infrastructure constraints that have delayed Uganda's

commercial oil production, Total intends to pump crude oil through feeder pipelines drilled beneath the River Nile from fields in EA1 to the Central Processing Facility (CPF) in Buliisa.

A CPF is where oil is separated from other impurities before being fed into either the proposed pipeline or refinery.

Environmental groups have more than once raised red flags over the proposed move of laying oil pipelines under the world's longest river and oil companies drawing large volumes of water for own activities during development phase.

Activists under the Water Governance Institute earlier in August expressed fears of not only pollution but also that drawing enormous water volumes from Lake Albert could affect livelihood of surrounding communities.

Oil production worldwide uses huge volumes of water; in Uganda pressured water will be injected inside the wells to force out crude oil from the ground.

Steering clear

The laying of feeder pipelines two metres below the River Nile bed, known as horizontal directional drilling, the National Pipeline Company general manager, Mr John Bosco Habumugisha, says: "Is proven technology and one of the safest in the world."

"Of the entire pipeline that section beneath the river could be the safest," Mr Habumugisha maintains.

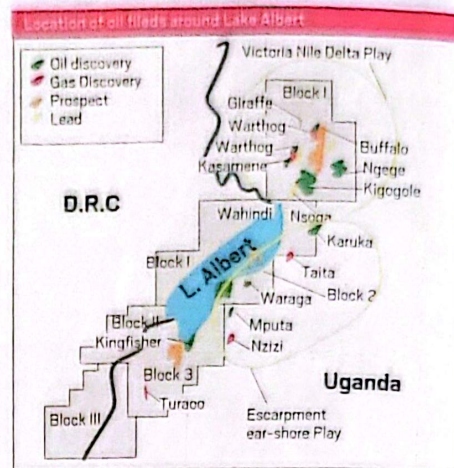
"In any case, if there is any problem, the pipeline can be shut from both sides but that notwithstanding, there will be so many safeguards put in place," he explains.

He adds: "We are aware of the odds so before anything is done, several impact assessments are being conducted."

Lake Albert forms part of the River Nile

6.5

Billion. Amount of Uganda's oil reserves, about 40 per cent of the basin better known as the Albertine Graben.



ecosystem, the stretch known as the Albert/Upper Nile which journeys northwards to the South Sudan border and further through Sudan and Egypt to the Mediterranean Sea.

The lake's main inflow is at the south end via River Semliki, which flows from the Mufimbira mountains in DR Congo through Lake Edward, augmented by streams from the Rwenzori ranges.

It is this mix of ecosystems which span several biogeographical areas that best explains why Uganda will be under test when oil production commences.



Occupied. An oil field operated by Cnooc on the shores of Lake Albert in Holma District. Preliminary estimates by the Petroleum Authority show that around 75,000 cubic metres (m³) of water will be drawn from Lake Albert.



Enough. "The amount of water to be extracted from the lake for oil activities is actually much less compared to what is either used for agriculture or lost in evaporation," Mr ERNEST RUBONDO, THE EXECUTIVE DIRECTOR OF PETROLEUM AUTHORITY, WHICH REGULATES OIL ACTIVITIES IN THE COUNTRY.

The oil companies—Total, Cnooc and Enbridge—during the construction and operation phases will be drawing 75,000 cubic metres of water daily from Lake Albert, for usage for upstream activities.

Throw in the other infrastructures; the crude oil export pipeline, refinery, the petroleum-based Industrial Park and the proposed Kabaale international airport.

Energy minister Irene Muloni says the daily 75,000 cubic metres is the projected "peak demand."

She said her ministry is in constant engagements with ministry of Water and the Nile Basin Initiative (NBI) secretariat, the cooperation body for the 10 countries sharing the Nile, "to ensure that the necessary approvals are obtained in a timely manner."

It is against this backdrop, one senior official in the Water ministry told *Daily Monitor*, that President Museveni had ordered for an impact assessment on the potential impacts of oil and gas development and associated activities on water resources in the Albertine.

The phased study, the official intimated, will "first focus on the impacts" and subsequently delve into available water resources in relation to the planned water extractions.

"Based on these findings, we shall then notify all the other Nile Basin countries about oil activities, and everything else that we intend to do," the official notes.

That notwithstanding, the executive director of Petroleum Authority, which regulates oil activities in the country, Mr Ernest Rubondo, told this newspaper separately that with the imminent oil production the entire Albertine Graben is going to grow—not just with industries springing up but also population wise—which means water consumption needs to be planned.

"The amount of water to be extracted from the lake for oil activities is actually much less compared to what is either used for agriculture

or lost in evaporation," Mr Rubondo says.

"There are also opportunities for underground water which we need to tap into. Nonetheless we are cognizant that the lake is a transboundary body so we have to be cautious."

Technology is also available, he added, "to ensure that used water can also be treated and reused."

On the pollution concerns, Mr Rubondo said they are "closely monitoring" all activities. "Considering the caution we exercised during exploration, appraisal and drilling stages, it tells you that we are strict on guidelines."

The oil – Nile test

The River Nile's catchment area spreads through territory of 10 countries—Rwanda, Uganda, Burundi, Tanzania, DR Congo, Ethiopia, Egypt, Kenya, South Sudan and Sudan, which all have a say in the affairs of the river, for 16 years now through the Nile Basin Initiative (NBI).

The river spans a total length of 6,695 from its source in the Burundian highlands to the Mediterranean Sea. Some hydrology accounts however postulate that the Nile has "little amount" of water—does not exceed 84 billion cubic metres of water.

Throw in other natural dynamics the Nile basin is grappling with such as high climatic variability, low percentage of rainfall reaching the main river, an uneven distribution of its water resources, and high evaporation rates; this "makes it out of the list of the tenth biggest river sources in the world", according to a March 2017 compendium titled 'Nile River Biography and its Journey from Origin to End.'

River Amazon in South America, River Congo in neighbouring DR Congo and the Mississippi river in the United States rank in the first, second and third places, respectively in terms of the annual water discharges.

Dr Callist Tindimugaya, the commissioner for water resources planning and regulation in Uganda's ministry of water, told *Daily Monitor* in an interview that "the Nile has water for all of us."

"Look at it like people forming an organised queue for food. Usually, the food will be enough for every person who goes at a time but if the same people start wrestling how much of it do you think will be lost?" Dr Tindimugaya argues.

"That exactly is the same problem we have in the Nile basin."

The Nile is formed by two major tributaries, the White Nile that flows from Burundi through Lake Victoria to Sudan near the capital Khartoum where it intersects with the Blue Nile that flows from the Ethiopian highlands, near Lake Tana—the latter contributing over 70 per cent of the river's waters.

Sudan, being the third largest country on the continent by geographical occupation has the largest Nile basin of 1.9 million Sqkm. About 98 per cent of Uganda is part of the Nile basin.

That makes the river a theme for political interaction and more than once has jolted relations of riparian states that share the river with distinct variations, uses and interests.

Egypt and Ethiopia being the most recent example after the latter undertook construction of the Grand Ethiopian Renaissance Dam on the river, the largest dam in Africa.

Egypt and Sudan still, treat with utmost suspicion the rest of the basin countries when it comes to the Cooperative Framework Agreement (CFA) that espouses equitable utilisation of the river.

The CFA was adopted in Entebbe in 2010 and seeks to replace colonial agreements that grant [ed] Egypt and Sudan veto powers on Nile waters. Its main principles are equitable and reasonable utilisation of the waters of the

MAP SHOWING EASTSOSO



REQUIRED WATER

The estimated peak water requirement for Upstream (oil fields) 42,000m³ per day and 30,000m³ per day usage for midstream (refinery) projects.

Ministry of Water has so far issued five year renewable permits for upstream activities.

The Nile's annual flow volume was/is

estimated at 85 billion cubic metres at the Aswan High Dam by the colonial agreements which granted Egypt a 75 percent share (55.5 billion cubic metres) and 25 percent (18.5 billion cubic metres) to Sudan with the assumption that the other countries can get water through other sources like rain or even fresh

Nile. Uganda is yet to ratify the agreement pending consensus of all the 10 countries.

What this means is that upstream countries cannot undertake any activities which could significantly affect Egypt's [or Sudan's] allocated water quotas.

The CFA however allows the upstream countries to undertake activities as long as they consult widely with and notify other members, especially those that significantly depend on the river.

Dr Tindimugaya said Uganda has already notified all the other NBI countries of the "impending notification" pending completion of the assessment on the impact of oil activities.

"It is true the study is ongoing and it is high priority because this is a serious matter," Dr Tindimugaya noted.

"We are doing this not just in spirit of good neighbourliness but also out of the fact that we are aware of our neighbours' water needs. No country in the region has enough water to stand on its own or for that matter not to be concerned about the plight of others," he says.

"International water law also obliges us to notify others in the basin," he says.

Uganda's annual renewable water resources are estimated at 43 billion cubic metres, out of which 29 billion cubic metres come from the outside, according to the ministry of water mappings.

"If you sealed off our borders that means we would remain with only 14 billion cubic metres; it means the dams cannot run and essentially livelihood will be shattered," Dr Tindimugaya says.

"That calls for trans-boundary cooperation, and now with oil activities we have to be careful," he adds.

But owing to high possibility of contamination of natural public water bodies, Uganda will be expected to more than assure other NBI countries that nothing wrong will happen from its oil activities else hydro relations could complicate further.

Tomorrow, we examine if Ugandans are preparing for the lucrative contracts and estimated 150,000 jobs in the next phase.

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DR CALLIST TINDIMUGAYA, THE COMMISSIONER FOR WATER RESOURCES PLANNING AND REGULATION IN MINISTRY OF WATER.

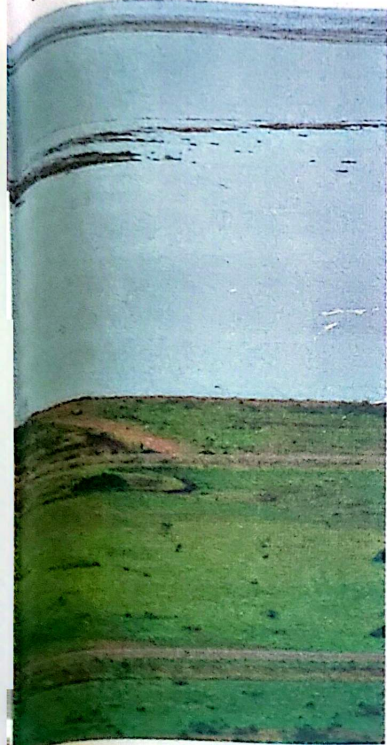


PHOTO BY FREDERIC MUSISI