# Govt, oil companies race against time on infrastructure strategy

**Analysis.** Eleven years after the government confirmed the oil discoveries in mid-western Uganda were commercially viable; the good news is that a lot of ground work has been made to prepare for its production in the next three years. But the bad news is that production is likely not to start as envisaged mainly due to infrastructural constraints. In our five part series, **Frederic Musisi** explores some of the uphill tasks awaiting Uganda in the strides towards production.

The roughly three hours' drive on the rugged dusty 111km Hoima-Butiaba-Wanseko road down to Buliisa District in mid-western Uganda can be both thrilling—for adventure lovers; through numerous bends and corners downhill into the Great Rift Valley and endless green scenery—and fatiguing, for anyone irrespective.

Buliisa is home to a population of 113,161 people according to the 2014 census, and large volumes of oil reserves still buried underground. After more than 10 years or so of oil exploration and appraisals, the oil companies— France's Total E&P, China's Cnooc and Anglo-Irish Tullow Oil—which routinely ply the route, are now shuttling back and forth to start production.

On reaching Buliisa town, where locals gaze at every [new] passing vehicle with suspicion and curiosity, the road intersects in two sections; one 9km stretch winds at Wanseko Landing Site at Lake Albert, and another bumpy 23km road takes you deep into the wild to the shorelines of Victoria Nile through Bugungu wildlife reserve/tourist resort, part of the greater Murchison Falls National Park.

From Bugungu, another 80km rugged stretch curves through the Murchison National Park northwards to Masindi en route to the main town from where another, the 54km Biiso road can lead you back to Hoima in about two and a half hours.

Driving on the Masindi-Biiso road, like for many roads in the region, is like walking a tight rope. Even the most seasoned drivers can hardly stand the deplorable road conditions while the communities seem to have long surrendered to 'eating' dust.

The four roads are among 600km of roads in mid-western, northern and southern parts of Uganda that have been earmarked for tarmacking by 2020 to facilitate different activities by the oil companies—Total E&P, Cnooc and Tullow, to meet government's target of starting commercial production towards end of 2020.

The 2020 target is veiled in the President Museveni's campaign pledge of turning the economy into 'middle income status' with oil revenues as a catalyst.

According to World Bank forecasts, with commercial oil production at peak, Uganda could rake in an estimated Shs7 trillion ($2b) annually in revenues.

The Energy ministry through the Uganda National Oil Company puts annual estimates to about Shs5 trillion. Nonetheless, any figure in the event that oil prices will have picked up by then, remains good news.

### Race on oil roads

According to the Uganda National Roads Authority (Unra) executive director Allen Kagina, the oil companies last year identified and mapped a network of 10 "critical roads" (roughly 600kms) based on their needs during the next development and production phases.

"In December (last year) Cabinet gave us a directive to urgently work on these roads and have them ready by 2020. We started around April with different pre-construction activities, which we have nearly completed," Ms Kagina told journalists early last week in Hoima. "We are currently finalising procurement of contractors—at valuation stage—and hope to sign the first commercial contract before this month ends."

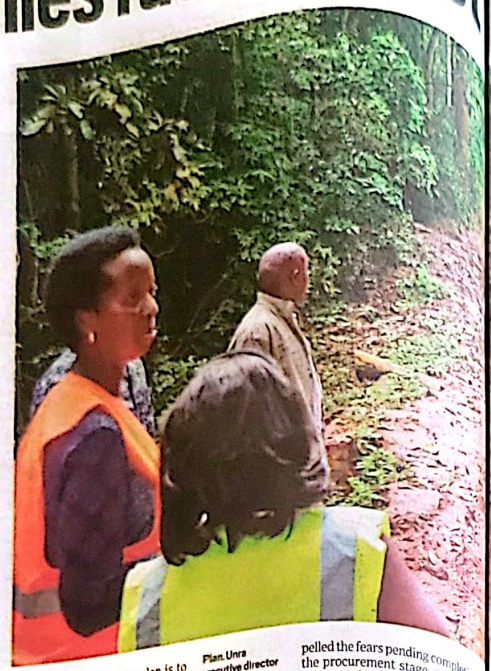
China's Exim Bank is expected to provide a $531m (Shs2 trillion) credit line for the oil roads project, which will be supplemented by withdrawal of $33m (about Shs116 billion) from the Petroleum Fund.

Finance minister Matia Kasaija told *Daily Monitor* separately that his technocrats "are almost through" with negotiations for the loan. "We are only waiting for Unra to forward us the list of qualified contractors, which we have to submit to Exim Bank."

In the meantime, Unra officials have completed feasibility studies, preliminary designs and the environmental impact and social impact assessments (ESIA) on the 10 proposed corridors.

Some of the roads curve through eco-sensitive Uganda Wildlife Authority (UWA), National Forestry Authority (NFA) and National Environment Management Authority (Nema) gazzetted areas, which according to Ms Kagina makes "the considerations so delicate" and necessitate caution since the same roads are expected to serve the tourism industry.

The Unra head of land acquisition, Mr William Matovu, revealed that acquisition of land on the Hoima-Butiaba-Wanseko and the plan is to acquire at least 30 per cent of land on each of the 10 roads before civil works commences.



Plan. Unra executive director Allen Kagina (left) inspects the Lwera-Kaseeta road, which passes through Bugoma Forest. It is one of the 600km oil roads in the Albertine Graben that are planned to be completed by 2020. PHOTO BY FREDERIC MUSISI

Mr Matovu said they are in "constant engagements" with Nema, NFA and UWA for sections that cut through ecologically sensitive areas like wetlands, forest reserves and animal sanctuaries so as to meet the International Finance Corporation (IFC)'s environmental and social performance standards.

The oil companies—Cnooc currently "finalising" the technical Front End Engineering Designs (Feed) on its Kingfisher field, and Total's Feed for its Tilenga project in the Nwoya/Buliisa said to be in initial stages, expect to transport an estimated three million and eight million tonnes of cargo, respectively during Engineering Procurement and Construction (EPC) phase later next year or early 2019.

It is for this matter—haulage of the bulk tonnage—that the oil companies in their submissions also requested for customised roads with maximum classification standards, according to Unra's transport economist Davis Muhwezi.

"We shall have to meet this requirement but where their [oil firms] loads will be abnormal it will have to be split," Mr Muhwezi said. With the roads being demand customised concerns are abound that this might lead to the costs shooting through the roof. Previously, there were reports of the Hoima-Butiaba-Wanseko road costing an estimated $2m per kilometre against the usual $1,960,000 to $1million per km. Ms Kagina, however, dispelled the fears pending completion of the procurement stage, saying "costs are also influenced by a number of factors some of which we have no control over".

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What will remain to be seen is whether the national roads body can deliver the high quality roads on time—by 2020. The average time for start and completion of roads in Uganda, coupled with the laborious land acquisition, is usually three to four years.

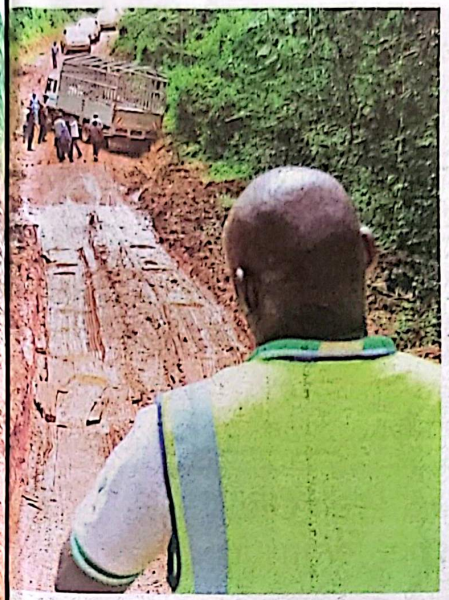
However, the oil roads' project manager, Mr Michael Ochola, said the plan is to start work on key sections such as bends and sharp corners, which are problematic for wide-load trucks, bridges and swamps, and later start on the thoroughfares.

Pending release of the first instalment of $531m loan from Exim Bank, Mr Ochola revealed that ministry of Finance had given "no objection" to Unra's proposal of pre-financing for the contractors to mobilise on finance and work.

Besides Exim Bank funding, the government's export credit agency UK Export Finance (UKEF) is financing two other roads—the 43km Kabwoya-Buhuka and 55km Karugutu-Ntoroko road via Semliki national park.

Total E&P also plans to work on additional 200km of in-field roads around its Tilenga project in Nwoya/Buliisa. Cnooc has similar plans.

Most cargo for the upstream projects—development of the oil fields will be hauled from Kenya's Mombasa port to Malaba on the Ugandan side from where it shall be moved via the 340km Tororo-Mbale-Soroti-Lira-Kamdini, which also will require constant rehabilitation.



Civil works are ongoing on the section between Kamdini in Oyam District and Masindi District where several oil roads stretch to other areas like Hoima and Buliisa. "No heavy duty cargo will be hauled through Kampala," Mr Muhwezi indicated.

Several other roads are in offing for tarmacking on the proposed corridor for the crude oil export pipeline from Hoima down south to Tanga Port in Tanzania.

### More infrastructure blues

Had it not been landlocked, Uganda would perhaps have started commercial production some years back—with crude oil being loaded onto tankers to the international market. Ghana announced its [oil] discovery in 2007, a year after Uganda and commenced production by 2010.

For Uganda, besides being a new frontier, what is apparent is that the level of available infrastructure does not match the needs for the oil sector. And with the timelines for project completion being between five years and more, it means Uganda has a long way to go to pump first oil for sale.

After several months of butting heads, the government and oil companies in February 2014 signed a commercialisation plan entailing among others a pipeline and refinery, to pump oil.

Currently, the government is labouring to get on board an investor to design, finance and construct a phased 60,000 barrels per day refinery but discussions on the project expected to cost $4b (Shs12 trillion) seem to be headed nowhere.

This is besides the proposed Kabaale International Airport and Industrial Park in Hoima. The tender for the airport project covering six villages, expected to cost €euros307m (Shs1.3 trillion) from UKEF and Standard Chartered Bank, was early this year handed to a consortium of UK- French firm Colas Group and local constructions company SBI but several operational modalities are yet to be ironed out to pave way for work.

Against this backdrop, several critics and insiders say it is impossible for oil production to start in 2020.

On another front government and the oil companies are preoccupied with the uphill task of the $3.5b (Shs12 trillion) oil pipeline to Tanga.

The ministry of Energy permanent secretary, Mr Robert Kasande, told this newspaper that the "technical engineering designs for the project are nearly complete and we expect them to be submitted any time to embark on the next course."

### 2020 technically possible

The contract for Feed awarded last December (slightly behind schedule) to Houston-based Gulf Interstate Engineering to examine technical aspects to give a clear picture of the project, is expected to lead to Final Investment Decision (FID) and eventually Engineering, Procurement and Construction (EPC), probably towards end of 2018.

That notwithstanding, the acting director of the petroleum directorate in ministry of Energy, Mr Honey Malinga, said "we have made good progress on so many fronts."

"Countries [like Ghana] have been coming back to us to benchmark on good practices, which means it is not good to rush," Mr Malinga told this newspaper in an interview.

Mr Malinga said between $10b and $15b (about Shs35 trillion to Shs53 trillion) is needed for the upstream (development of oil fields to start production), midstream (refinery, crude export pipelines, central processing facilities) and downstream facilities (storage facilities, distribution terminals, etc.), facilities needed to enable first oil.

The uncertainty about Uganda's readiness to start commercial oil production in three years' time notwithstanding, Mr Malinga said there is good progress on the Kingfisher oil field, which is expected to pump first oil and whose technical Front-End Engineering Designs (Feed) are almost complete.

Kingfisher or Exploration area 3's is operated by Cnooc. The field's production licence was granted in 2013.

Cnooc earlier-on put the cost of developing the field to be able to pump first oil at around $2b (approx. Shs7trillion). A clear picture of the investments will be documented in the Feed study.

In a joint statement with Total and Tullow, Cnooc said "the Kingfisher project is about 90 per cent complete in Feed." The company said it has issued calls for "tenders for EPC packages" which will be evaluated before 2017 ends besides the ongoing back to back Environment Impact Assessment study and land acquisition process—also with a December completion date.

Officially, the oil companies speak of the steps taken so far and reaffirm government's 2020 production start date but in the background they admit that the target is unrealistic.

> **Progress.** We have made good progress on so many fronts. We have ensured that the ground is solid in that when we eventually take off; we won't be held back."
>
> MR HONEY MALINGA, ACTING DIRECTOR OF THE PETROLEUM DIRECTORATE, MINISTRY OF ENERGY

And given the huge capital requirements involved, one oil firm official confessed "the most important point is to get things right and not just rushing."

The official said they cannot protest the government schedule because it could spark disharmony "but in any case we are both committed to first oil coming out as soon as possible."

One senior Cnooc official told this newspaper that the company's Feed for Kingfisher was already completed but asked why everything appears to be at a standstill, he said; "There is too much politics going-on."

Total E&P, which was only awarded production licenses last year in August, is in early stages of Feed studies for its Tilenga project— Exploration Area 1A (EA1) at the northern end of Lake Albert (in the Murchison Falls National Park—expected to be completed in June 2018 and subsequently reach final investment decision and thereafter EPC.

The back to back EPCs (by Cnooc and Total) will entail construction of the wellpads, two Central Processing Facilities (CPFs), camps yards and bases, procurement of construction items, and other logistical requirements. Up to 12 million tonnes of equipment and materials need to be imported and delivered to the oil region.

A CPF is where oil will be stored first for stabilisation and treatment before being fed into either the proposed refinery or pipeline.

**In the second part on Tuesday, we explore the proposed crude oil export pipeline.**

### OIL INFRASTRUCTURE PLAN

- Pipeline cost:Shs11 trillion
- Oil roads cost: Shs3.2 trillion
- Oil airport cost: Shs1.3 trillion
- Refinery cost: Shs13trillion
- Estimated investments leading to production: Shs27 trillion. The oil roads are Hoima-Butiaba-Wanseko road (111km), Masindi-Biiso (54km), Masindi-Bugungu via Murchison Falls National Park (80km), Kaseeta - Lwera via Bugoma Forest (16km), Hohwa-Nyairongo-Kyarushesha road (25km), and Wanseko-Bugungu (23km). Others include Lusalira-Nkonge-Sembabule (97km), Kyotera – Rakai (20km), Buhimba-Nalweyo-Kakindu-Kakumiro-Mubende (110km) and Kabale – Kizinamfumbi road (30km).

### KEY ISSUES

Tullow's area of operation, Exploration Area 2 (EA2) which has five production licenses, east of Lake Albert in the Butiaba region, will be taken up by both Total and Cnooc, respectively after the ongoing farmdown deal is finalised.

The oil firms told *Daily Monitor* in a joint statement that "We are progressing steadily towards the achievement of targeted 1st oil end 2020." What remains clear is that the stakes are high on both sides in the race against time.

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