

JINJA

By Donald Kilrya

First cable installed at new Nile bridge

The first ever stay cable has been installed at the new Nile Bridge in Jinja.

The stay cable is one of the 21 cables to be installed at the 525m long cable-stayed bridge across River Nile.

Yamamoto Takao, the resident engineer and team leader of the project, says construction of the bridge is on course and substantial completion is expected in April 2018.

Takao told *New Vision* on Friday that construction work progress currently stands at 36% and promised that by April 2018, substantial progress will have been realised.

According to Eng. Lawrence Parlo, the head of bridges and structures construction at Uganda National Roads Authority (UNRA), after substantial completion, they might consider an extension of three months to carry out auxiliary works or work on small damages done after construction.

"Major challenging works in the water, which included creating an artificial island, fracturing through the deep rocks underwater and socketing piles into the hard rocks are now complete," Parlo said.

The construction of the \$129m bridge was launched by President Yoweri Museveni on January 28, 2014.

Current construction works

Parlo said by June 25, at pylon 2 structure, concrete casting for the 14th lift pylon top was completed. Steel reinforcement fixing for the 15th lift is in progress, with nine-cable stay anchorage boxes already installed.

Meanwhile, some works have been successfully completed, including 21 two-metre diameter reinforced cast in-situ concrete piles, pile cap, pylon base, including post-tensioning of pylon base, construction of temporary bearings, installation of pot bearings and lateral bearings, construction of pier table and pylon legs and the installation of a tower crane.

At pylon 1 structure, Parlo said concrete casting for the 12th lift-1 of pylon top was completed, while steel reinforcement fixing for 12th lift-2 and 12th lift-3 is in progress. The pier table for both sides was completed with all the longitudinal prestressing of both pier table stands and pier table bars, the construction of the first segment of pylon 1 to abutment 1 box girder from the pier table is in progress with rebar works for both bottom slab and web in progress and installation of pylon 1 and pylon 2 form traveller trusses is also in progress.

He added that the following works at pylon 1 structure have been successfully completed and these include: construction of access jetty and cofferdam, a total of 18, two-metre diameter cast in-situ concrete piles, pile cap, pylon base including post-tensioning of pylon base, construction of temporary bearings, installation of pot bearings and lateral bearings, pylon legs plus the tower crane.

At abutment 2 structure and box girder, all works have been completed, including all the prestressing works and the construction of abutment 2 to pylon 2 box girder segment 1,2,3 and 4.

Parlo further explained that rebar and form works of two metres centre closer between abutment 2 to pylon 2 box girder and pier table were also completed. Concrete casting of IL pylon 2 to pylon 1 box girder was completed and arrangement for the temporary cable installation is in progress.

He said the construction of abutment 1 structure was 95% complete with a total of eight, 1.5-metre diameter working piles and one pilot pile. Pile



An aerial view of the construction works at the new Nile Bridge from the Njeru side

CHALLENGES

Eng. Lawrence Parlo, the head of bridges and structures construction at Uganda National Roads Authority, said despite having construction materials at the site, the biggest challenge is productivity, where local skilled and non-skilled labourers are not able to produce enough construction material as expected, thus putting the project at risk.

He said UNRA sat with the contractor, discussed and advised the contractor to increase the number of workers to fill in the missing gaps so as to meet the production. The project currently has 400 workers on site.

He further said the construction period of the project is 48 months. They have so far gone about 37 months and are remaining with nine months to completion.

Other works Parlo, who is also the construction manager for the new Nile Bridge site, said road construction works were in progress, with section 2 embankment works on the Jinja side completed. Embankment section five and six and drainage works on the Njeru side are

on-going.

He said the box culvert was completed while the retaining wall is almost complete, with only one block remaining.

Parlo said construction of all the cross-service ducts, permanent relocation of water and sewer line and relocation of power line at Jinja side are all complete and in progress on the Njeru side.

He added that the relocation of telecommunication fibres is on-going, with those belonging to MTN, AFRICELL, NITA completed, while that of UTL's is in progress.

Parlo said a *Michi-no-Eki* (road station) structural design is in progress too.

Parlo said the new Nile Bridge will enhance tourism because of its picturesque location. There will also be knowledge transfer from foreign expertise to locals since the exchange of knowledge and skills is ongoing.

He said it will also contribute to the country's economic growth by promoting the economic development and integration of Uganda within the surrounding central African countries and providing guarantees to people and trade movement on the Northern Corridor Route (NCR).

The new Nile Bridge will ensure safety of the NCR transportation system by relieving traffic loading from the existing deteriorating Nalubaale Dam/bridge structure, which was built in 1950.

He said the bridge, being the first of its kind in the region, will also have a system and gadgets that will monitor the temperature, forces and stretches of the bridge cables. Deflections on the bridge will be installed.

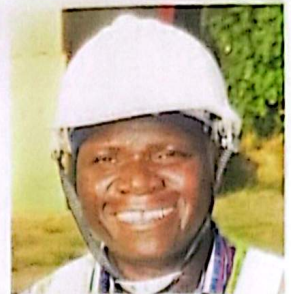
He said they will also put in place global positioning system and

satellite-controlled facilities to monitor movement on the bridge and will also put speed sensors and weigh-in-motion sensors so that they can track vehicles that are overloaded and apprehend them.

Parlo said they have never experienced any death or major accidents during the construction period, adding that workers are also paid in time.

He said the Japan International Cooperation Agency (JICA) pays 100% of the funds of the project, adding that the money that Uganda would have put into the work was channelled towards other structural projects.

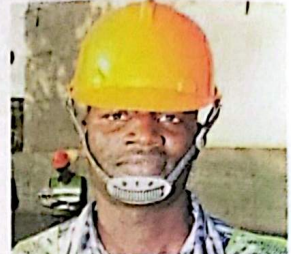
Morris Odoch Odrua, the project engineer, said besides the unique bridge type, a pocket park for better viewing by tourists and a *Michi-no-Eki* (road station) will be provided, with the structure containing a mini-supermarket, restaurant, room for the bridge maintenance team, security house and crafts centre.



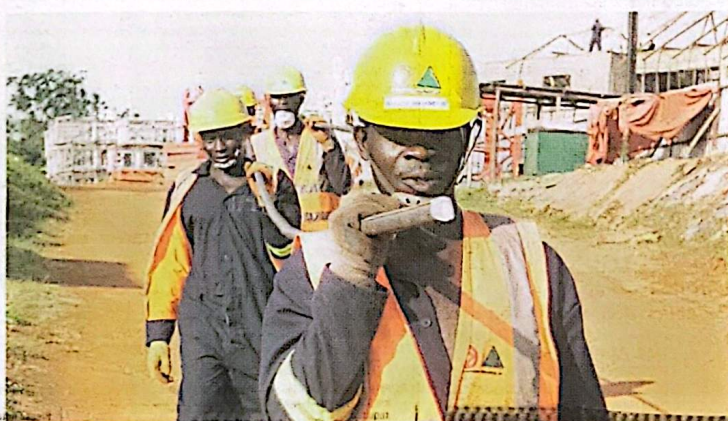
Lawrence Parlo



Yamamoto Takao



Morris Odoch



Workers at the new Nile Bridge construction site on Friday

Location
The new Nile bridge project is located about 82km by road east of the business capital, Kampala and 500m south of existing Jinja-Kampala highway. The project entails construction of a new three-span, 525m-long cable-stayed bridge across the River Nile in Jinja.

With a main span (clear span) of 290m, the 22.9m wide pre-stressed concrete box girder will accommodate two traffic lanes and one walkway (7.0m carriageway and 2.2m walkway) in each direction and will be supported by a single plane of cable stays anchored in the middle of the girder. The load shall be transferred to the ground through the four supporting structures, with two pylons having an inverted Y-shape approximately 69.0m high. The project also includes