

A Quarterly Newsletter of the Nile Equatorial Lakes Subsidiary Action Program (NELSAP) Coordination Unit



NELSAP News

Issue No 006 - April - June 2018

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of major
hydro-power
plant on track**



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Message from the Communications Desk

By Doreen NAKURE

NELSAP is always poised to ensure the Nile Equatorial Lakes countries get benefits accruing from cooperation and working together. NELSAP prides itself in bringing together countries by identifying national and regional projects of high impact therefore contributing to the NBI's overall goal of improving livelihoods, enhancing social economic impact and reducing environmental degradation.

NELSAP is aware that the Water, Energy and Food (WEF) are inextricably linked and are essential for human well-being, poverty reduction and sustainable development. Our goal is therefore to base on this interrelationship and bring out the projects that will ensure the sustainability of the Nile for the future generations.

This quarter was a busy one and through our every day work, we continued with the implementation of the projects and identification of other projects as a priority. A lot of activities all leading to our mandate were done and more are being worked on, you will find all the information, details on the projects, the value of these projects and how they were identified as well as the way forward in this issue of our newsletter.

As always, we will keep informing you each of our activities and projects through the quarterly newsletters and our social media platforms regularly.

Have a great read, until next issue. ■

Our Mission

*To contribute to the eradication
of poverty, economic growth, and
reversal of environmental
degradation in the Nile Equatorial
Lakes region*

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The Regional Rusumo Falls Hydroelectric Project (RRFHP) implementation, which is a construction of the 80 MW Power Plant is moving forward at the Rusumo Falls situated at the border of Rwanda and Tanzania. The implementation is executed by two Contractors: CGCOC & JWHC JV Contractor under Contract Package 1 (CP1) being responsible for the construction of the civil works while ANDRITZ Contractor under Contract Package (CP2) being responsible for all electromechanical equipment design, manufacture and installation.

Towards construction of the cofferdam, the river diversion works were concluded in June 2018. By the end of June 2018, CP1 had commenced with the water intake tunnel with progress of about 10m distance while also completed the adit to headrace tunnel for 120m and started the headrace tunnel excavation. In general, the batching and mixing of shotcrete activities progressed well, whereby hauling of aggregates ready to feed the batching plant was on going. The batching plant operation continued supporting all civil works required concrete and shotcrete supporting of tunneling walls.

Noting the progress made under civil works contract package, RRFHP continued providing job opportunities whereby about 400 citizens from the three riparian countries were attracted for jobs. Under CP1 alone, about 200 Tanzanians, 130 Rwandans and 50 Burundians were employed for both skilled and unskilled

Construction of the major NELSAP hydropower project on the right track



Construction of the major NELSAP hydro-power project on the right track

👉 P.4

After the river diversion was achieved in June 2018, the CP1 contractor started the power intake tunnel for 10m and the dam construction at the right side. CP1 completed the adit to headrace tunnel for 120m and started the headrace tunnel excavation. The Alkali Silica Reaction testing, the aggregate sourcing and spoil disposal were finalized.



labour. While the project continued employing more citizens of the said countries, safety measures have continuously being practiced in keeping the construction sites out of hazardous risks. The grievance redress mechanisms, measures to harmonize community engagement and project awareness raising were in place.

The Tanzania Minister for Energy,

Hon Dr Medard Kalemani and the Minister of Infrastructure, Hon Amb Claver Gatete visited the project site on June 9, 2018, to take stock of implementation progress. On that mission, the Rwanda Minister of Infrastructure was accompanied by the Rwanda State Minister for Energy, Hon Kamayirese Germaine.





Eng. Alloyce Oduor
NELSAP Power Engineer

The governments of Burundi, DR. Congo, Kenya, Rwanda, and Uganda decided to interconnect their electrical grid networks with the overall goal of improving the living conditions of the people as well as the quality of the socio-economic development of the Nile Basin countries through increased availability of affordable electric energy. The main objective of the interconnection is to improve access to electricity in the Nile Basin countries through

The Interconnection of the Electric Grids of the Nile Equatorial Lakes (NEL) Region Project

increased cross-border sharing of energy and power. In line with the mandate vested to NELSAP-CU, the five countries further deployed the coordination role of implementation of the project to NELSAP-CU.

The main benefits of interconnecting electricity networks of different countries to form a power pool include:

a) Enhancing the levels of power system

security;

b) Increased accessibility to a more affordable electricity by synergizing power generation resources;

c) Deferring or avoiding construction of new power plants by sharing electric power among the countries through trading;

d) Reducing the operational power system reserve capacity requirements within each country; and

e) Contributing to a stronger integration of the regional electricity market thereby enhancing the social and economic development of the member/participating countries.

The scope of this project entails building a total of 931.5km 400kV and 220kV overhead transmission lines (OHTL) and associated 17 Substations funded by AfDB, KfW, JICA, Sida and the national counterpart funding from the five benefiting countries at an estimated cost of USD 441 Million. The project components are as follows:

a) 220kV and 400 kV Uganda (Bujagali) – Kenya (Lessos) interconnection – 260.5 km and associated Substations at Lessos, Tororo and Bujagali. This component is on-going;

b) 220kV Uganda (Mbarara-Mirama) – Rwanda (Shango-Birembo) Interconnection –164 km and associated substations at Mbarara and Mirama. The transmission line between Uganda border (Mirama) and Rwanda (Shango) was completed in December 2015 and is pending energization. Rwanda border-Mirama-Mbarara was completed in May 2018 and is also pending energization. Works at all the substations are on-going

c) 220kV Rwanda - Burundi - DRC (Eastern part) Intercon-

nections - 364km and associated substations in Birembo, Shango, Gisenyi, Kibuye and Goma. Transmission line between Rwanda (Birembo, Shango, Gisenyi, Kibuye) and DR. Congo (Goma) was completed and commissioned in August 2016; and

d) 220kV Rwanda (Kigoma) – Burundi (Gitega) interconnection -143 km and associated substations at Kigoma, Gisagara, Ngozi and Gitega. EPC Contractor for transmission line in Rwanda (Kigoma-Gisagara- Burundi boarder) and substations in Rwanda (Kigoma and Gisagara 220/110/30kV) has been procured.

In the course of the next five years, Burundi, the eastern part of Democratic Republic of Congo, Kenya, Rwanda, Uganda and Tanzania will be gradually interconnected. In the NEL region, there are also other interconnection projects and jointly developing hydropower plants (i.e. Rusumo Falls and Ruzizi III).

The NEL region will evolve from a configuration with limited interconnectivity to a fully interconnected and meshed system once all planned power interconnection lines are complete. This positive evolution will contribute to the benefits in the NEL region in terms of increased accessibility to electricity, sharing of natural resources

and hence more affordable electricity and improved system reliability through the shared support between the countries.

In connection to the implementation of the project in coordination of NELSAP, two more supplementary studies were also conducted due to two major reasons:

a) All the countries had made very substantial changes in the scope, which effectively deviated from original feasibility studies. Kenya later settled on 400kV instead of 220kV voltage level, Rwanda shifted to double circuit 220kV in their interconnector with Uganda from single circuit. Rwanda-Burundi-DR. Congo also changed from 110kV and 70kV and adopted 220kV for their interconnections; and

b) Substantial implementation time creep due to the changes in designs, procurement of major equipment and plant and the overall slow performance of the EPC contractors also occurred.

The two studies were conducted aimed at harmonization and commercialization of the power interconnection systems involving Tanzania. The supplementary studies completed in March 2017 were financed by the EU with funds managed by AfDB.



NELSAP HOLDS THE 29TH NELTAC MEETING

NELSAP-CU coordinated for the 29th Nile Equatorial Lakes Technical Advisory Committee (NELTAC) meeting, held on April 13, 2018 in Entebbe, Uganda. The meeting was decorated by a theme “Contributing to development of the Nile Equatorial Lakes’ Countries through water-food-energy nexus Investment Projects”. The NELTAC meetings are held twice every year aimed at providing technical guidance on operations of NELSAP and being an accountability and approval platform for activities being implemented.

The Value for Money of NELSAP's RBMS and Projects under implementation

In 2005, after the establishment of the three River Basin Management (RBMs) Projects of Kagera Basin (shared between Burundi, Rwanda, Tanzania and Uganda); Mara Basin (shared between Kenya and Tanzania); and Sio-Malaba/Malakisi (shared between Kenya and Uganda), the projects received bilateral financing from the Government of Sweden and Norway to a tune of US\$ 11.8 million from 2005-2010.

The Multi-Donor Nile Basin Trust Fund (NBTF) financed these projects with US\$ 18.8 million between 2009-2014, and then the World Bank administered Multi-Donor Cooperation in International Waters in Africa (CIWA) Trust Fund is supporting the projects with US\$ 17.6 million from 2014-2020. Therefore a total of US\$48.2 million has financed the RBMs since their establishment.

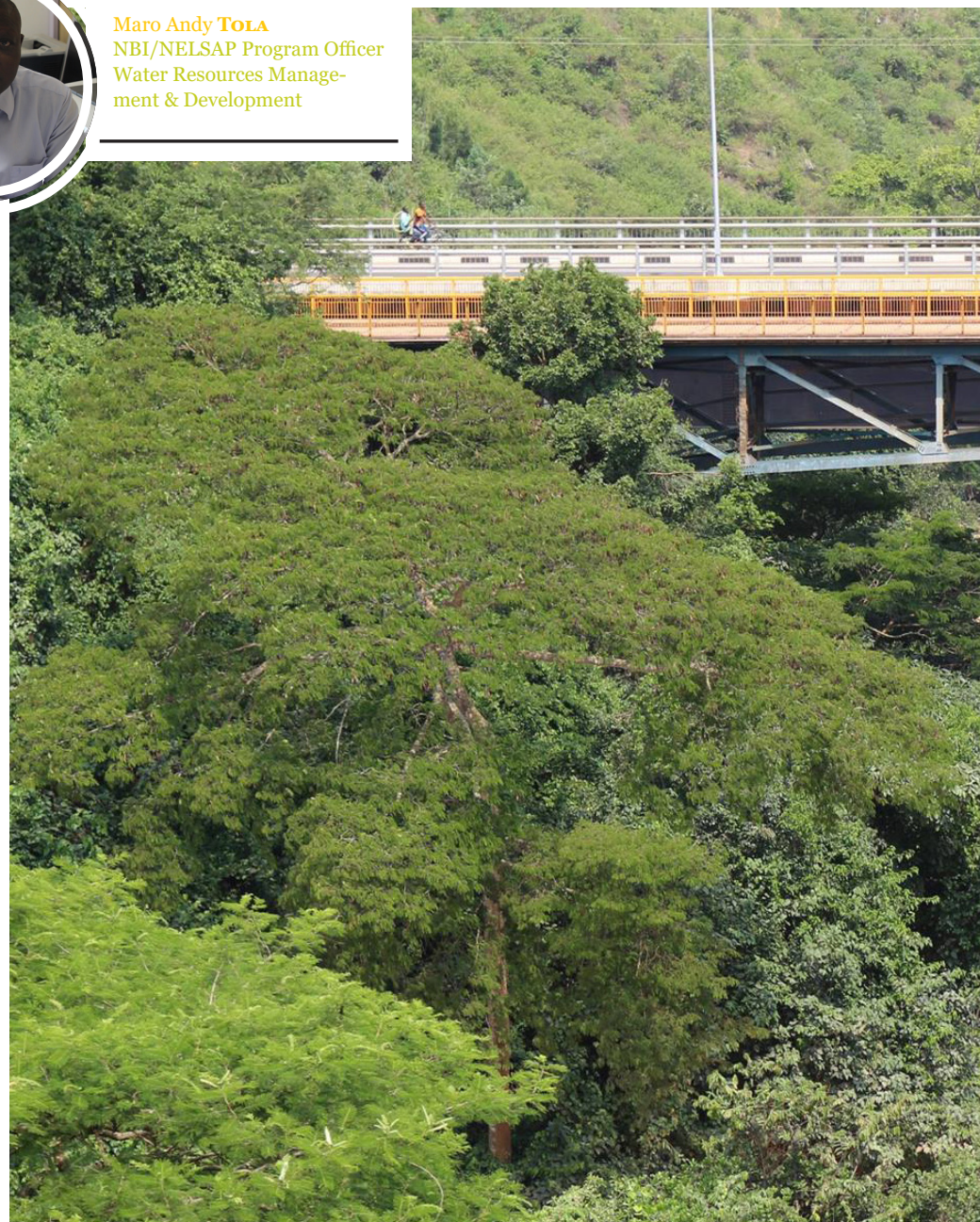
Through these three RBM projects, NELSAP-CU mobilized cumulative finance to-date for pre-investment programs of US\$92 Million and an additional US\$980 Million for investment projects.

With these funds, NELSAP also prepared number of pipeline projects which were approved for further development by the Nile Equatorial Lakes Council of Ministers (NELCOM) in October 2015 and from a long list of 71 pipeline projects, a portfolio of 21 are prioritized projects for preparation at estimated cost of US\$72 million dollars and a further 16 prepared investment bankable projects for implementation at a cost of US\$1,925 million dollars for short and medium term period 2017-2022.

With the success of the RBMs, NELSAP also coordinated the implementation of two key infrastructure projects of regional significance in 2015. The first project being the implementation of Regional Rusumo Falls Hydroelectric Project (RRFHP) with 80 MW power plant installed capacity which will be shared by Burundi, Rwanda and Tanzania funded by the World Bank at a tune of USD \$ 340 million while construction of the three country transmission lines connecting the RRFHP power plan is funded by African Development Bank (AfDB) at a tune of USD \$ 121 Million. Note



Maro Andy TOLA
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Water Resources Management & Development



The Value for Money of NELSAP's RBMS and Projects under implementation



that, the construction of the transmission lines is directly managed by the respective riparian countries.

The construction of these transmission lines include 220kV transmission lines double circuit running 161 km from the power plant to Gitega substation in Burundi, 119km double circuit line from the Power plant to Shango sub-station in Rwanda and 98.2 km double circuit line from the power plant to Nyakanazi sub-station in Tanzania.

The second project is the implementation of the Multinational Lakes Edward & Albert Integrated Fisheries & Water Resources Management Project (LEAF II) which is funded by the African Development Bank (AfDB) on a Grant of 6 million UA (US\$ 8.785 million) to the Democratic Republic of Congo, a loan of 5 million UA (US\$ 7.321 million) to Uganda, and from the Global Environment Facility (GEF) grant of US\$ 8.1 million through the AfDB to the NELSAP-CU for regional

coordination of implementation of the project. The total project cost is US\$ 23.75 million.

With almost US\$ 1.072 billion worth of pre-investment and investment projects prepared in the framework of NELSAP, and another US\$1.997 billion worth of pre-investment and investment projects ready for implementation. The US\$ 48.2 million invested into the three RBMs has managed to prepare US\$ 2 billion worth of investment projects by NELSAP translating to a ratio for US\$1 invested in RBMs to US\$ 41.431,535 worth of investment projects prepared.

The three RBMs projects which are being given to the countries for their implementation will continue to play a key role in the Nile Basin Initiative/NELSAP by ensuring that NELSAP mandate and vision are fulfilled and that the NEL member countries will benefit a lot through sustain the RBMs projects.

SMM Hands Over Project Study Documents to the Government of Kenya

The Nile Equatorial Lakes Subsidiary Action Program Coordination Unit (NELSAP-CU) conducted feasibility & ESIA/RAP studies, detailed design and tender documents preparation for the Sio Sango Irrigation Development and Watershed Management Project for the Government of Kenya (GoK) funded by the World Bank Group. Recently, the mentioned studies were concluded whereby NELSAP-CU scheduled for hand-over of all study reports to the GoK. Based on that, on April 28, 2018 documents were handed over to both the Country Governments of Bungoma & Kakamega and the National GoK. The hand over function was held at Tailitia Health Center in Bumula before the Cabinet Secretary for Water and Sanitation (Mr. Simon Chelugei) and Bungoma County Governor (Wycliffe Wangamati).

The proposed irrigation development and watershed management project consists of a Dam at 23 meters high, which will impound 3.9 million cubic meters of water and irrigation to a command area of 1,700ha and generate micro-hydropower. Out of 1,700ha, 845ha will benefit communities in Kakamega County and 855ha will benefit communities in Bungoma County. The total estimated project investment cost is Kshs 4.1 billion (US\$ 41 million).

The Sio Sango Project is located in the SMM

sub-basin on the Kenyan side part of the Nile Equatorial Lakes Basin. The sub-basin within Kenya is shared between the two County Government of Kakamega and Bungoma.





WATER ALLOCATION AND ECONOMIC MODELLING TRAINING

NELSAP conducted a one week capacity building training on the water allocation and economic modelling in Burundi whereby 14 technical staff from the water sector ministries participated. The training was held at Martha Hotel in Bujumbura, Burundi during June 25 – 29, 2018. Like in other member countries, the training aimed at building the capacity of Burundi in handling water resources planning, management and development for sustainability through effective water allocation and economic modelling for productive investments.

The modules trained during the week sessions were: improvement of water allocation for economic production, economic analysis for water infrastructure development & application of water resources modelling and economic evaluation of watershed management interventions.

RUSUMO POWER COMPANY LIMITED BOARD VISITS UGANDA

The Rusumo Power Company Limited (RPCL) Board members led by its Chairman Ndayihaye Nolasque had a 5 days tour to Uganda during May, 28 to June 1, 2018 and visited the two flagship projects of Karuma (600MW) and Isimba (183MW) as well as the Nalubaale-Kiira complex and Bujagali hydro power station in Uganda. The benchmarking visit on project development was especially on contract administration, contract relations and supervision.

The Rusumo Board visited Karuma hydro power project and was taken round the site on a guided tour by UEGCL Project Manager, Albert M. BYARUHANGA. The team toured the Dam and Intake, Power House, Headrace Tunnel, Surge Chamber, Trifurcation, Tailrace Tunnel and Outfall.

The Regional Rusumo Falls Hydroelectric Project (RRFP) is a hydropower project under joint development by the Governments of Republic of Burundi, Republic of Rwanda and United Republic



of Tanzania through a commonly owned Rusumo Power Company (RPCL). The joint development was entered by the three governments through a Tripartite Agreement signed on 16th February, 2012. The project is located at Rusumo Falls, at the common border of Rwanda and Tanzania on River Kagera. The power production facilities are located entirely on the south side of the bank of the Kagera River in Tanzania, while the substation is located on the northern side of the bank of the river in Rwanda.

MINISTERS FROM 3 COUNTRIES VISIT THE RRFHP PROJECT

Tanzania Minister for Energy, Hon Dr Medard Kalemani and the Minister of Infrastructure, Hon Amb Claver Gatete with State Minister for Energy, Hon Kamayirese Germaine visited the The Regional Rusumo Falls Hydroelectric Project on June 9, 2018, to take stock of the Project progress.

Hon. Dr Medard Kalemani appreciated the work executed by the RRFHP, "the Project has recorded good milestones that need to speed up civil works", he said. Hon Amb Claver Gatete also valued the civil works done so far. He urged the Project to accelerate the construction pace of the 80MW.





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