Kenya Investment Benefits from the Nile Basin Cooperation

Kenya hosted the NELIP conference in August 2018. NELIP is a country-driven multi-sector investment program bringing together all NEL member countries and NELSAP-CU to design, and implement programs. During this conference, countries prioritized 96 projects in sectors including irrigation, energy, fisheries, watershed management, water supply and sanitation.

NELSAP-CU undertook rehabilitation of hydro-meteorological network in Mara and SMM basins and installed 5 automatic weather stations, 20 digital rain gauges, 4 automatic water level recorders, 11 evaporation pans and 25 staff gauges.

A 10,000 m³ composite filtration unit (CFU) which is part of Angurai water supply scheme done by NELSAP-CU in collaboration with Government of Kenya benefiting over 10,000 people in Angurai division, with clean water.
The Nile Equatorial Lakes Subsidiary Action Program Coordination Unit (NELSAP-CU) headquartered in Kigali, Rwanda, is one of the two investment programs of the Nile Basin Initiative (NBI), the other being the Eastern Nile Subsidiary Action Program (ENSAP), headquartered in Addis Ababa, Ethiopia known as Eastern Nile Technical Regional Office (ENTRO).

NELSAP-CU was established in December 1999 by the Council of Ministers for Water Affairs in the Nile River Basin, with a mission to “contribute to the eradication of poverty, promote economic growth, and reverse environmental degradation in the Nile Equatorial Lakes (NEL) region, within the overall NBI’s shared Vision of sustainable socioeconomic development and the equitable use of and benefit from Nile Basin water resources”. NELSAP-CU is governed and reports to the Council of Water Ministers from 10 Nile Basin membership states of Burundi, DR Congo, Egypt, Ethiopia, Kenya, Rwanda, South Sudan, Sudan, Tanzania and Uganda.

NELSAP-CU within its mandate facilitates jointly agreed transformative in-country projects with regional impact/significance and trans-boundary cooperative investment projects related to the common use of the Nile Basin water resources. It also builds regional capacity of countries and provides a platform for implementation coordination of trans-boundary investment projects. NELSAP-CU renders support to national initiatives and focuses on two investment areas of: (i) power development and trade; and (ii) natural resources management and development. NELSAP-CU has prepared a number of cooperative in-country and regional trans-boundary projects, which are at various levels of preparation and implementation. NELSAP-CU has mobilized finances for pre-investment and investment projects cumulatively totalling to USD 1.050 billion (pre-investment USD 557.107 million and for investment projects USD 493.018 million).

Since 2014, NELSAP-CU has gained regional experience, strengthened its capacity and emerged as a reliable regional institution for facilitating key in country and regional investment projects in the Nile Equatorial Lakes Region and beyond. Its key institutional strength lies in project pre-investment feasibility studies, regional projects coordination support, regional strategic analysis, environmental aspects, social economic development, stakeholders’ engagement and development communication, financial and procurement management as well as results based monitoring and evaluation.

NELSAP-CU, in delivering on its mandate, is supported bilaterally and multilaterally by different development partners including, but not limited to, the World Bank, the African Development Bank (AfDB), the Canadian International Development Agency (CIDA), the Governments of Norway (NORAD), Swedish International Development Cooperation Agency (SIDA), the Government of The Netherlands, the Japan Bank for International Cooperation (JBIC), Japan International Cooperation Agency (JICA), GIZ (Germany), French Development Agency (AFD), European Union(EU) and KfW (Germany). NELSAP-CU work has provided direct and indirect benefits to the Republic of Kenya since 2004 as elaborated below.
A. Regional Agricultural Trade and Productivity Project (RATP 2009-2012) USD7Million

The rationale of the project was to ensure reliable access to water, strengthened market linkages and active promotion of private sector as options that can have a dramatic impact on agriculture growth, food security and poverty reduction across the NEL countries. The project was implemented in collaboration with regional economic communities COMESA and EAC and financed by Canadian International Development Agency (CIDA) through the Nile Basin Trust Fund (NBTF) and the Cooperation for International Waters in Africa (CIWA) project of the World Bank.

Under the project, the following studies were completed: (i) development of the Nile Basin agricultural model, (ii) assessing the irrigation potential in 7 NEL Countries (Burundi, DRC, Rwanda, Kenya, Sudan, Uganda, Tanzania), (iii) promotion of best practices on water harvesting and irrigation practices, (iv) cross border agricultural trade studies focusing on trans-boundary grain/pulses trade, livestock trade in the Nile Basin Region”, (v) virtual water/water footprint analysis, documentation and awareness creation as well as (vi) definition of the NBI agricultural role, based on study of River Basin Organization lessons, and national and regional consultations.

B. Maira/Lower Sio Multipurpose Water Resources Development Project

NELSAP-CU concluded feasibility study and preliminary design for the Dam, for Maira/Lower Sio project in 2012 at a cost of USD 560,000 with financing from the Swedish Government. The study reports are enabling the Government of Kenya to attract investment financing for the project. The Maira Dam with a capacity of 6.2 MCM has a height of 11M, once completed will serve irrigation command area of 2,000ha and provide water supply for domestic and livestock use whereby 12,000 people will benefit. The designed infrastructure has the capacity to generate 105 MWh.

C. Construction of Angurai Water Supply Scheme

NELSAP-CU in collaboration with the government of Kenya constructed the Angurai Water supply Scheme in 2007, at a cost of USD 160,000 (Ksh. 16.3 million). The project is benefiting over 10,000 people with clean water including two high schools and Angurai division which has led to improved health of the Teso North communities of western Kenya. The works undertaken included construction of 20m3/hr Composite Filtration Unit (CFU) construction of 4km of pipelines, among others. The source of water for this scheme is the Malakisi River at the intake works for the Malaba-Kocholia water supply scheme. This project was funded by the Swedish Government through Swedish International Development Agency (SIDA), the Royal Norwegian Government through the Norwegian Agency for International Development (NORAD), and the European Union (EU).

D. Augmentation of Bomet Water Supply and Sewerage Disposal and Treatment Project

NELSAP-CU in collaboration with government of Kenya supported augmentation of Bomet Water Supply Project at a cost of Ksh 17,635,749 (NELSAP-CU Ksh. 12,933,053 and Gok Ksh.4,702,696). The project is benefitting 20,000 people in Bomet Municipality with clean and safe water services.
E. Pre-feasibility Studies for Multipurpose Water Resources Development Project Within the SMM Basin
NELSAP-CU completed pre-feasibility studies for potential multipurpose water resources development projects within the Sio Malaba Malakisi Basin at a cost of USD 190,000. The study identified 14 potential multipurpose Water Resources development project on the Kenya side of the catchment. The document is enabling the Government of Kenya in planning and advancing investment projects for improved food, water and energy security.

F. Malaba Solid Waste Management Project
NELSAP-CU supplied Malaba Town council Kenya with a hydraulic trailer for solid waste management within the town at a cost of USD 40,000 and 400 pieces of 100 litres dustbins. The project is benefiting 500,000 people through improved water quality as a result of solid waste reduction into Malaba River. This project was funded by the Swedish Government through Swedish International Development Agency (SIDA), the Royal Norwegian Government through the Norwegian Agency for International Development (NORAD), and the European Union (EU).

G. Feasibility study and Investment Proposal Preparation for Mara and SMM Integrated Watershed Management Projects
NELSAP-CU conducted Feasibility study and Investment Proposal Preparation for both Mara and SMM Integrated Watershed Management Projects costing USD 218,970 and USD 497,000 respectively. The project when implanted will benefit over one million people within the Mara and Sio Malaba Malakisi Basin with increased farm production, reduction in soil fertility loss, increased incomes and improved livelihoods.

H. Shared Lwakhakha, Lower Sio, Middle Malaba and middle Malakisi Sub-Catchment Management plans
NELSAP-CU supported the governments of Kenya and Uganda in preparation of sub catchment management plans for the shared Lwakhakha, Lower Sio, Middle Malaba and middle Malakisi sub catchments at cost of USD 199,000. When implemented the plans will benefit over 560,000 community members with increased farm production, reduction in soil fertility loss, increased incomes and improved livelihoods.

I. Rehabilitation of Hydro-meteorological Network within Mara and Sio Malaba Malakisi Basins
NELSAP-CU undertook assessment and design of hydrometric network within the Mara and Sio Malaba Malakisi Basin. A total of USD 197,000 was spent in rehabilitation of the hydrometric network within the SMM basin. In Kenya 4 automatic weather stations, 20 digital rain gauges, 4 automatic water level recorders were installed together with 2 acoustic doppler current profilers. The amount spent under the Mara basin was USD 169,601 where 3 automatic water level recorders, 5 automatic weather stations, 11 evaporation pans, 5 standard rain gauge tipping bucket and 25 staff gauges were installed in the basin. The installed stations augment the existing network stations and have enhanced water resources planning and management within the SMM Basin.

J. Sub-Catchment Management Plan for Mara River Basin.
NELSAP-CU prepared the Sub-Catchment Management Plans for Isei, Engare Ngiito and Lelaitich in Mara basin on the Kenyan side under financing from the Swedish Government. The plans once implemented will benefit about 350,000 people in the sub catchment and enhance environmental conservation.

K. Sitabicha/Suswo Irrigation Demonstration Schemes
NELSAP-CU/NBI constructed a water transmission line of 1.020 km, a sub main line of 500 metres and laterals covering 600 metres to convey water to farmer’s plots as well as 25 sprinkler heads and risers for water application to crops for Sitabicha. At Chepkaaram Suswo, NELSAP-CU/NBI did a diversion weir and intake chamber, a 420 m long channel with seven (7) outlet structures and a secondary canal of 200 m. This irrigation demonstration has a combined command area of 62 acres and will benefit 400 families. The expected income per family is USD 1,274.00 per year (Ksh. 130,000)
A. Preparation of Sio-Sango Water Resources Multipurpose Project
NELSAP-CU in collaboration with the Kenya Government undertook feasibility studies, detailed design and tender document preparation and also ESIA/RAP for Sio Sango Project at a cost of USD 1.1million. The study completed around April 2017 and will benefit over 18,000 people with water supply (domestic and livestock use), and water for irrigation (1,790ha) and will contribute to improved water and food security.

B. Preparation of Bungoma and Cross Border Busia, Cross Border Malaba, and Cross Border Lwakhakha Pollution Control Projects
NELSAP-CU supported in preparation of Bungoma and Cross Border Busia, Cross Border Malaba, and Cross Border Lwakhakha pollution control projects at accost of USD 87,000. The projects when implemented will benefit over 1.2 million people including transit population across the borders through improved water quality, reduction and clean and healthy environment.

C. Shared Angololo Irrigation Development and Watershed Management Project (Kenya/Uganda)
The trans boundary Angololo Irrigation and Watershed Management project is a USD 1.65 million project (USD 1.5 million from the African Development Bank AfDB and USD 150,000 from Republic of Kenya and Republic of Uganda). The project will contribute towards increased irrigated agriculture, irrigating 3,300 ha of land (1,180 ha in Kenya and 2,120 ha in Uganda) when fully developed. Angololo is expected to benefit at least 127,300 people from Tororo, Manafwa, and Namisindwa districts in Eastern Uganda and Busia and Bungoma Counties in Western Kenya through creation of employment opportunities, agricultural production (irrigation) piped water supply to 20,000 people in Malaba town, and livestock and fisheries production. The project includes an upstream integrated watershed management of about 430 Km² and has potential for Hydro Electric Power generation of 1.75MW.

Angololo project is one of the trans-boundary projects identified under the NELSAP-CU Sio-Malaba/Malakisi River Basin Management Project and approved during the 18th NELCOM meeting held in Entebbe, Uganda on 13th October 2015 and was included into the African Development Bank (AfDB) pipeline (IOP) for the year 2016-18 to seek possible funding support. Following this identification study, the Governments of Kenya and Uganda formally requested NELSAP-CU to integrate it into its pipeline of a number of natural resources projects for further appraising and development. It is with this background that the NELSAP-CU/NBI was mandated in the signed MOU between Uganda and Kenya to support in mobilization of resources for preparation of the investment project. NELSAP-CU approached AfDB Eastern Africa Regional Centre (EARC) for funding to undertake preparation studies.
INTERCONNECTION OF ZTK (ZAMBIA-TANZANIA-KENYA) POWER GRIDS THROUGH NELSAP-CU

The project was officially launched on 17th July 2019 by H.E the Governor of Busia Hon. Sospeter Ojaamong - Kenya and the Director of Water Resources of Uganda Mrs. Florence Adongo, who was representing Hon. the Minister for Water and Environment.

NELSAP-CU on behalf of Kenya and Uganda is undertaking preparatory work related to feasibility study, conceptual and detailed designs, tender documents, social and environmental impact assessment (ESIA), resettlement and compensation action plan (RCAP) and project implementation preparation, in order to secure the financing required to implement the project. The project has been rated as a priority in the AfDB-AU NEPAD IPPF indicative project pipeline (2016-2020) and the countries ADF-14 Programming Cycle as indicated by the Ministries of Finance to AfDB. The pre-feasibility studies for this project were undertaken in 2010 by NELSAP-CU with grant from the Royal Government of Sweden and the Royal Government of Norway. This phase of the project will be implemented over a duration of 24 months and it will bring the two countries together, enhance cooperation among these riparian countries and enable them to jointly develop the water resources of the Malaba river.

D. SIO-MALABA-MALAKISI (SMM) PROJECT

The Sio Malaba Malakisi River Basin is shared between Kenya and Uganda and has a population of over 4 million people. Malaba-Malakisi Catchment is over 3.782 km². The Sio River Basin Catchment is 1.448km² covering in Kenya - Bungoma, Kakamega, and Busia counties and Uganda - Bududa, Bugiri, Busia, Butaleja, Manafwa, Namisindwa, Namutumba, Mbale, Pallisa and Tororo. The SMM project goal is to establish a sustainable framework for the joint management of the water resources of the Sio-Malaba-Malakisi catchments; in order to prepare for sustainable development oriented investments that will improve the living conditions of the people as well as protecting the environment.

Key Achievements so far: Key Achievements include the Kenya and Uganda Signing Agreement on Sio-Malaba-Malakisi River Basin. This was as a result of lobbying by NELSAP-CU/NBI.

INTERCONNECTION OF ELECTRIC GRIDS OF THE NILE EQUATORIAL LAKES (NEL) COUNTRIES

The project, commonly known as the NELSAP Interconnection was recommended by East Africa Power System Master Plan 2005, known as Strategic/Sectorial, Social and Environmental Assessment (SSEA) of Power Development option in the Nile Equatorial Lakes Region. Objective is to improve access to electricity in NBI countries through increased cross-border trade of energy for power security and reliability. The project covers Burundi, DR Congo, Kenya, Tanzania and Uganda. Resources mobilized to date for this project is USD 450 million from AfDB, JICA, EU, Government of the Netherlands, KfW and SIDA. All studies were completed and interconnection of the NEL countries is under implementation. Lines were completed in Rwanda, In Uganda lines are 88% complete, while Kenya is at 50% completion. DR Congo and Burundi are both at 20%.

THE KENYA – UGANDA POWER GRID INTERCONNECTION

This is a component of the NELSAP interconnection and it connects Kenya-Uganda through the Lessos-Tororo-Bujagali Over Head Transmission Line (OHTL). The Kenyan side (Lessos-Tororo) is 50% done while the Ugandan side (Tororo-Bujagali) it is 88% done. This interconnection is expected to lead to increased power supply allowing for the transfer of about 150-300MW along a 256 km power line (128km either side of the border). It is expected to lead to reduced power tariff leading to socio-economic benefits and also facilitate trade of power with Burundi, DR Congo, Rwanda as well as Uganda.

KENYA – TANZANIA POWER GRID INTERCONNECTION:

Kenya – Tanzania interconnection is a component of the the ZTK (Zambia - Tanzania -Kenya) interconnection project which was prepared by NELSAP-CU. This project involves construction of about 510 km of high voltage alternating (HACD) 400kV Over Head Transmission Line (OHTL). This is composed of 96 km of OHTL and extension of the Isinya substation in Kenya and 414 km of Over Head Transmission Line (OHTL) and substations in Arusha and Singida in Tanzania. NELSAP-CU undertook and completed...
The Mara River Basin (MRB) has great potential in the following areas; tourism, forest resources, fisheries resources, livestock development, crop farming, energy development potential and cross-border trade. NELSAP-CU/NBI prepared a number of projects within the Mara River basin (MRB) that are ready for implementation. These include:

1. **Gogo Falls Multipurpose Water Resources Development**
   This is a major project that will include a reservoir of 155 million cubic metres of water storage, hydropower generation of 20MW, irrigate 30,000ha, and up to 86,400m³ per day water supply that will benefit 1.152 million people. Estimated project cost is USD 393.69 million.

2. **Amala-Norera Multipurpose Storage Reservoir**
   This is part of investment projects advanced by Kenya to NELSAP-CU for project preparation. It is prioritized by the government of Kenya and it is included in the National Water Masterplan, 2030. The project will benefit a total 34,000 people, Irrigate 900ha of farmlands, produce hydropower and supply water to Bomet and Mulot towns. Estimated project cost is USD 43.15 million.

3. **Lelaitich Sub Catchment Management Plan (SCMP)**
   This sub-catchment has an area of 182 km² and falls in Bomet county. The SCMP aims to improve water, natural resources and livelihoods. The project will benefit 56,054 people. Estimated project cost is USD 1.14 million.

4. **Integrated Transmara and Maasai Mau Forest Management Program for the Mau Forest Ecosystem.**
   The project aims to contribute towards the reversal of the current basin degradation trends to ensure improved water security and improved livelihood. The project will benefit 162,000 people, (31,500 households) in 15 locations of three counties (Nakuru, Narok and Bomet), size of forest blocks 767km². Estimated project cost is USD 67.0 million.

5. **Engare Ngitoo Sub Catchment Management Plan (SCMP)**
   Engare Ngitoo sub-catchment has an area of 207 km² and falls in Narok county. The SCMP aims at improvement of water, natural resources and livelihood. The project is expected to benefit 106,147 people (19,573HH). Estimated project cost is USD 1.07 million.

6. **Isei Sub Catchment Management Plan (SCMP)**
   Isei sub-catchment has an area of 147 km² and falls in Bomet county apart from the gazetted forest area which is within Narok County. The SCMP aims at improvement of water, natural resources and livelihood. The project is expected to benefit a total 48,213 people (9,090HH). Estimated project cost is USD 0.84 million.

7. **Olchoro Lemek Sub Catchment Management Plan (SCMP)**
   Total beneficiaries 14,148 people (2,994HH), size of the sub catchment 902km² and expected project cost is USD 0.935 million.

**Projects Prepared by NELSAP in Mara ready for Implementation to Benefit Kenya**

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## Summary of Projects in the Pipeline with Direct Benefits to Kenya

<table>
<thead>
<tr>
<th>Name and Location</th>
<th>Status</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sio Sango Irrigation Development and Watershed Management Project (1,700 Ha) in the Sio Sango Village, Kabula Sub Location</td>
<td>Feasibility and ESIA studies completed in June 2017. Detailed design and tender documents preparation also completed in June 2017</td>
<td>Investment USD 42.54 million</td>
</tr>
<tr>
<td>Kocholia dam (Amagoro-Amoni Irrigation Development and Watershed Management Project in Teso north district, Busia county, Kenya. Irrigated area 4,000 Ha, to benefit 3,300 farmers. Hydropower Potential 1.09MW</td>
<td>Pre-feasibility study level next is Feasibility Study and ESIA, and detailed design</td>
<td>Pre-investment USD 3.5 million, investment USD 49 million</td>
</tr>
<tr>
<td>Integrated Approach to the Conservation of Maasai Mau and Transmara Forest Ecosystem, Kenya – for Agriculture and Natural Resources (Forest protection, land and water management and livelihood diversification) in Transmara and Maasai Mau Forest Blocks in Kenya.</td>
<td>Project preparation completed next is Project Implementation</td>
<td>Investment USD 67.09 million</td>
</tr>
<tr>
<td>Shared Soono Multipurpose Water Resources Development Project (Kenya/Uganda) – for Power sector, Water resources development (Hydro Power generation), Industry, and Trade in Lwakhaka</td>
<td>Identification done FS and ESIA to be done next is Feasibility, ESIA, and detailed design</td>
<td>Pre-investment USD 1.1 million, investment USD 10 million</td>
</tr>
</tbody>
</table>

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<tr>
<th>Name and Location</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Shared Angololo Multipurpose Water Resources Development Project in (Kenya and Uganda) to benefit 127,300 people. Irrigate 3,300Ha (1,380Ha in Kenya and 2,220Ha in Uganda and Generate 1.75MW Hydropower</td>
<td>Feasibility, ESIA, and detailed design being done</td>
<td>Pre-investment USD 3.5 million, investment USD 67 million</td>
</tr>
<tr>
<td>Implementation of SMM Basin-wide Integrated Watershed and Wetlands Program Sio-Malaba/ Malakisi Sub basin</td>
<td>Feasibility study level next is Design and implementation</td>
<td>Pre-investment USD 4.0 million, investment USD 40 million</td>
</tr>
<tr>
<td>Implementation of the Mara Basin-wide Integrated Watershed and Wetlands Program in the Mau Region</td>
<td>Feasibility study level next is Design and implementation</td>
<td>Pre-investment USD 1.5 million, investment USD 40 million</td>
</tr>
<tr>
<td>Titsi Irrigation Development and Watershed Project in Cheptais, Bungoma County-Kenya</td>
<td>Prefeasibility done next is Detailed design and project implementation</td>
<td>Pre-investment USD 0.3 million, investment USD 1.4 million</td>
</tr>
<tr>
<td>Amala-Norera Multipurpose Storage Reservoir Development Project (&gt;1.0 MW, 2,500 Ha) in the Upper Mara Sub basin on Amala river</td>
<td>Identification done for extending increasing the Dam next is Prefeasibility, Feasibility ESIA, and detailed design</td>
<td>Pre-investment USD 2.0 million, investment USD 43.15 million</td>
</tr>
</tbody>
</table>