AN ASSESSMENT OF THE STATUS OF BLUE ECONOMY SECTORS IN KENYA

Sector Report on Inland Blue Economy in the context of Ports, Harbours and Maritime Transport

Presented by

University of Nairobi Maritime Centre

To

UNEP-NC

February 2023

Table of Contents

Section I

Inland Blue Economy in the context of Ports, Harbours and Maritime Transport

1. Introduction and Definition of Inland Blue Economy

The importance of the Oceanic Blue Economy to the overall Kenyan economy cannot be gainsaid. However, in the treatment of the wider BE, the significance of the Inland Blue Economy need not be ignored. This calls for the need to look at the sectoral significance of the inland blue economy and its contribution to the overall Kenyan economy. In the context of maritime transport, there is need to look at the development of inland water transport from the view point of development initiatives undertaken by the GoK, on the one hand and others undertaken with support from our Development Partners. Other IBE development strategies are a subset of the wider EAC Blue Economy Strategy (EACBES). It is important to note that development of the Kenya Blue Economy and EACBES are intertwined with the African Union (AU) Agenda 2063 which aims at *"harnessing Africa's continental endowments embodied in its people, history, cultures and natural resources, as well as its geo-political position, to effect equitable and people-centered growth and development. This is to be pursued by: building on and accelerating the implementation of continental frameworks in agriculture, industrial and infrastructure development; providing internal coherence, alignment and coordination to continental, regional and national frameworks and plans adopted by the AU, Regional Economic Communities (RECs) and member states; and offering policy space for individual, sectoral and collective actions to realize the continental vision"*[1]. The African Blue Economy Strategy (ABES) is based on five thematic areas, among them Shipping/transportation, trade, ports, maritime security, safety and enforcement. The five thematic areas are intertwined with the framework of the November 2018 Nairobi Sustainable Blue Economy Conference. Suffice it to say that the objectives of the Conference were in tandem with the Vision of the AU-IBAR Strategic Plan 2018-2023, AU Agenda 2063 and the Africa Integrated Maritime Strategy 2050[2] all contributing to Africa's integrated, sustainable and secured transformative growth.

Definition of "Inland Blue Economy" (IBE): This includes the maritime sectors that directly or indirectly depend on inland lakes, rivers and wetlands. In the context of this sector report, this includes maritime transport on lakes and rivers (if any), issues of maritime security, safety, and health of the marine ecosystem as well as integrated legal and institutional frameworks governing the exploitation of related Inland Blue Economy resources. This report prominently highlights inland water transport on Lake Victoria as it is the most developed while pointing out the potential for the future development of inland water transport on Lakes Naivasha, Baringo and Turkana. The potential for navigability along some Kenyan rivers is also highlighted.

[1] East African Community Regional Blue Economy Strategies, April 2022

[2] 2050 Africa's Integrated Maritime Strategy (2050 Aim Strategy), December 2011

Section II

Water Transport on Inland Lakes and Rivers

2.1 Water Transport on Lake Victoria and Economic Importance of the Lake

2.1.1 Characteristics and Regional Significance of the Lake

Lake Victoria has a surface area of about 68,800 km^2 and a shoreline of 3,450 km^2. It is Africa's largest Lake and the second largest freshwater body in the world. It is a relatively shallow lake reaching a maximum depth of about 80 meters with an average depth of about 40 meters. It is a trans-boundary resource shared by Kenya, Tanzania, and Uganda. Each of these three countries has sovereignty over a definite part of the Lake as included in its national boundaries. The Lake has a catchment area of 194,000 km^2, shared between five countries of: Kenya (22 %), Uganda (16 %), Tanzania (44 %), Burundi (7 %), and Rwanda (11 %). The Lake is part of the Nile River basin system, shared by ten countries namely; Kenya, Uganda, Tanzania, Burundi, DRC, Ethiopia, Eritrea, Egypt, Rwanda and Sudan. The population of the Lake Victoria Basin (LVB) is approximately 38 million people and it represents approximately 30 % of the total population of the East African Community Member States.

Lake Victoria's significance arises from the following values:

- Largest inland water lake.
- Major inland intra-regional transport linkage for the five East African Countries with Kenya, Uganda and Tanzania being linked directly while Rwanda and Burundi use the lake for transport purposes. In addition, other countries of the neighboring countries use the Lake for exporting, importing and transit trade. Democratic Republic of Congo, South Sudan and also use the Lake.
- It is a source of water for domestic, industrial and commercial purposes.
- It a climate modulator in the region and a reservoir for hydroelectric power generation.
- Rich in biodiversity, agriculture activities and industrial activities especially related to fish and fish processing.

On the Kenya side, the Lake Victoria catchment under the auspices of the so called Lake Region Economic Bloc[3] consists of 14 counties of; Bomet, Bungoma, Busia, Homa Bay, Kakamega, Kericho, Kisii, Kisumu, Migori, Nandi, Nyamira, Siaya, Trans-Nzoia and Vihiga.

2.1.2 Water Transport and Intra-Basin Trade through Kisumu Port

The benefits of lake transport cannot be gainsaid. In most cases, it is the only affordable means of transport for the poor and small local businesses around the lakes. It carries passengers, vehicles, cement, fertilizer and daily consumption goods, such as cottonseed, wheat flour, fish and coffee. Historically, maritime transport on Lake Victoria, together with the rail network, played the primary role in the transportation of cargo and passengers to and from the land-locked countries.

[3] The Lake Region Economic Bloc. The Lake Region Blue Print, page 6

Ferries across the lake provide seamless integration with the national rail networks on each side of the lake and form an important component of an inter-modal supply chain along the Central and Northern Corridors thereby linking these corridors to Mombasa and Dar-es-Salaam ports. It's important to underline that these corridors are critical links for the landlocked economies in the region and especially for Zambia, Malawi, Rwanda, Burundi and Uganda.

Suffice it to say that the Northern and Central Corridors are two distinct multimodal routes connecting the seaports of Mombasa in Kenya and Dar es Salaam in Tanzania respectively, by road, rail and inland waterways to the landlocked countries of the Great Lakes Region including Burundi, D.R. Congo, Rwanda, South Sudan and Uganda. Both corridors form the backbone of regional transport in Eastern Africa. They include Lakes Victoria and Tanganyika waterways as well as their major ports (Kisumu-Kenya, Mwanza-Tanzania, and Port Bell-Uganda on Lake Victoria, Bujumbura-Burundi, Kalemie-D.R. Congo and Kigoma-Tanzania on Lake Tanganyika).

The trade taking place through Lake Victoria shows a high value of exports compared to imports. In some years, imports are a quarter of exports. This reflects the significance of the lake as an exporting port especially for fish exported to Europe. Imports mainly petroleum products and other household items are equally important. Transit trade and re-exports are also significant especially from Kenya. In 2014, 28,034 tons of cargo was export via the port and taking into account ongoing developments, cargo exports are estimated to increase to approximately 160,000 tons by 2025, and further to 230,000 tons by 2035. Similarly, taking Kisumu's 2014 import figure of 21,943 tons as a starting point, and taking into account ongoing developments, Kisumu's local cargo imports are estimated to increase to approximately 130,000 tons by 2025, and further to 180,000 tons by 2035. Consequently, under this scenario, total estimated local cargo demand at Kisumu Port will increase to approximately 290,000 tons by 2025, and further to approximately 410,000 tons by 2035[4]. It can be noted that Kisumu local cargo demand is estimated to see strong growth during initial years following the port rehabilitation works and the improvement of safety and reliability of the lake transport system.

2.1.3 Challenges to Water Transport on Lake Victoria

Before the break of the East African Community there were quite a number of ships and boats operating within Lake Victoria owned by the three East African Governments of Kenya Uganda, and Tanzania. Kenya owned the largest number of ships, then, but for the most part, only a few have been in operation. Three ships, M.V. Uhuru, S.S. Usoga and S.S. Nyanza, have been in perfect mechanical condition but have been idle due to lack of berthing facilities within the Nyanza gulf. Two other ships M.V. Homa and S.S. Kavirondo have been idle for most of the time, since they are operated only when there is enough cargo to warrant their sailing to other lake ports. Two small vessels owned by K.R. but not for public transport are M.V. Peeda and M.B. Cathleen which are

[4] Kenya Ports Authority, 2018

used only by the Marine Staff and also put on standby for emergency services. In essence, what all this means is that there are only three regularly operated passenger ships.

It's also important to note that for a long time transport policies and development plans did not emphasize on the need to develop inland water transport on Lake Victoria while other modes of the transportation system were adequately covered. This has led to the underdevelopment of this mode of transport. In addition, the policies did not bring out clearly how the different modes of transport could be integrated and coordinated so as to provide multi-modal transport services to the people and promote trade and economic development more efficiently and effectively.

Subsequently, demand for lake transport has continued to decline due to unreliable or broken rail connections to the maritime ports around the lake, unreliable ferry operations across the lake and safety concerns following a number of accidents, for example the sinking of the passenger ferry MV Bukoba in 1996 where 500 people were drowned. 5000 people are estimated to drown annually in the Lake as a result of maritime accidents.[5] Furthermore, the decline of shipping operations and lack of proper maintenance and limited stop-go investments financed by national governments and sometimes from international funding have resulted in deteriorating quality of most ports and port operations around Lake Victoria. Port entrance channels and berthing zones have insufficient depth and there is lack of navigations aids and paved cargo handling areas at the ports. Port operations are also outdated with most off-loading operations done manually. Currently, average freight waiting time at lake ports can be as long as 168 hours. Subsequently, hinterland connectivity is often poor as growing metropolitan areas around the lake have led to congested roads which are in most cases dilapidated.

For the most part, Kisumu's port infrastructure has been in poor state and in need of rehabilitation. The same applies to the smaller ports and piers most of which are inoperable due to lack of maintenance. Ferry services, provided by Kenya Railway Cooperation, are governed by outdated laws, inappropriate institutional frameworks, inadequate capital, poor safety standards and lack of third party insurance.

Other factors constraining the use of Lake Victoria for navigation include poor interconnection with other modes of transport; requirement for relatively large flows of traffic to offset high fixed costs; water vessels in a state of disrepair; inadequate cargo handling and lack of other facilities at ports; poor and time consuming supply chain of marine equipment and spares; lack of adequate navigation aids (lighthouses, lightships, beacons, buoys); outdated hydrographs and navigation charts; lack of search and rescue (SAR) and salvage equipment; occasional clogging of ports by water hyacinth; and insecurity and piracy along shipping routes.

2.2 Inland Water Transport on other Inland Lakes

Lake Naivasha: There is minimal water transport on Lake Naivasha**.** Privately owned boats ferry people across the lake to the adjacent islands for bird watching and other tourism related

[5] Nakyonyi Aisha, Maritime Safety on Lake Victoria, Analysis of the Legal and Regulatory Framework, Universitetet I Oslo, 2011.

excursions. About 30 boat owners have formed a cooperative through which they manage water transport activities. Future development of water transport is envisaged in the Nakuru County CIDP for 2022-2027.

Lake Baringo: There is considerable water transport on this lake to the adjacent islands which have human settlements with schools, health centers and other social economic infrastructure. These boats transport passengers, household goods and building materials. Boat owners have also organized themselves into a cooperative with an appropriate governance structure.

Lake Turkana: There is also very minimal water transport on this lake. Future development is envisaged in the Turkana County CIDP.

2.3 Main Kenyan Rivers and their Economic Importance

2.3.1 Tana River

River Tana is the longest river in Kenya. Its tributaries include the rivers Thika, Sagana, Thiba, Mutonga and Chania. They are considered the most relevant ones as they have historically provided the Tana River with enough water to sustain agriculture and hydropower among other activities. The river rises in the Aberdare Mountains to the west of Nyeri. Initially it runs east before turning south around Mount Kenya. The river then runs into the Masinga Reservoir and Kiambere Reservoir, created by the Kindaruma dam. Below the dam, the river turns north and flows along the north-south boundary between Meru and North Kitui and Bisanadi, Kora and Rabole National Reserves. In the reserves, the river turns east, and then south east. It passes through the towns of Garissa, Hola and Garsen before entering the Indian Ocean around Ungwana Bay–Kipini area.

Kenya's energy sector is the biggest beneficiary or the water resources in Kenya. A series of hydroelectric dams have been constructed along Tana River, including Kindaruma Dam in 1968 (44 MW), Kamburu Dam in 1975 (94 MW), Gitaru Dam in 1978 (227 MW), Masinga Dam in 1981 (40 MW), and Kiambere Dam in 1988 (168 MW)[6]. About two-thirds of Kenya's electrical needs are supplied by these dams along the Tana River. The river is navigable by small craft for about 240 km upstream, often with difficulty. In the upper catchment, Sasumua Dam provides water for Nairobi. An irrigation project in Mwea, Kirinyaga County, provides water for rice cultivation.

Provision of clean accessible water for communities neighbouring its power plants is a key social-economic contribution. Some of its notable water projects include:

- Sondu-Miriu Water project: This project includes a water treatment plant, bore holes and water kiosks, catering for 50,000 community members. The total investment was worth Kshs 147 Million.

[6] Nippon Koei (2013a). The project on the development of the national water master plan 2030. Final Report. Volume III Part F – Tana Catchment Area. GED JR13201 Vol._ 3. Republic of Kenya.

- Kivaa-Kaewa Water project: This includes a water distribution system (piping), water tanks and water kiosks serving 15,000 community members. The total investment was worth Kshs 50 Million.

These projects were identified, implemented and managed in collaboration with Sondu Miriu, Kivaa and Kaewa communities and with the support and participation of various regional Water Service Boards that oversee the delivery of water supply to communities in a sustainable and professional way. Key partners for the above mentioned water projects include Lake Victoria South Water and Sewerage Board as well as Tana-Athi Water and Sewerage Board facilitated by KenGen.

In conclusion, the area has a total installed capacity of 567 MW and the total gross storage of the reservoirs amounts 2,331 million cubic meters[7]. This is enough to deliver about 70% of Kenya's total hydropower generation and 40 to 60% of the total energy production in the country.[8] These are just a small fraction of the economic value of ecosystem services of the Tana River Basin.

2.3.2 Athi-Galana-Sabaki River

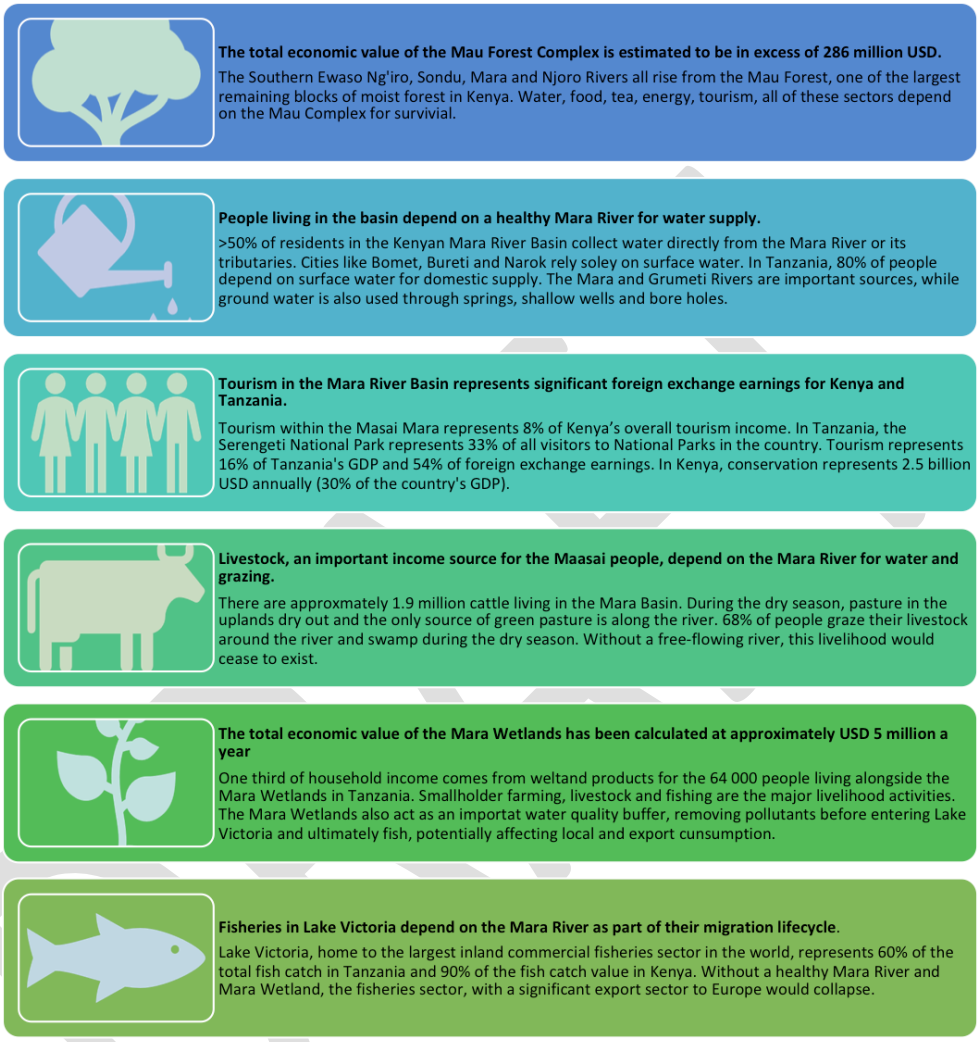
Athi-Galana-Sabaki River is the second longest river in Kenya. It has a total length of 390 km, and drains a basin area of 70,000 km². The river rises at 1° 42′ S. as Athi River and enters the Indian Ocean as Galana River also known as Sabaki River. The River flow across the Kapote and Athi plains, through the Athi River town, takes a northeast direction where it is met by the Nairobi River. Near Thika it forms the Fourteen Falls and turns south-south-east under the wooded slopes of the Yatta ridge. One of the key tributaries is the Tsavo River. The minimal navigation along the river is interrupted by the Lugard falls, which is actually a series of rapids. Onwards, it flows east and enters the Indian Ocean 10km north of Malindi town. The river flows through the Tsavo East National Park and attracts diverse wildlife and can therefore be considered as a key contributor to tourism revenues.

2.3.3 Mara River

From its sources in the Kenyan highlands, the Mara River flows for about 395 km and originates from the Mau Escarpment and drains into Lake Victoria. The Mara River basin covers a surface of 13,504 km^2, of which approximately 65% is located in Kenya and 35% in Tanzania. Although home to only 1.4% of the Kenyan population and 0.7% of the Tanzanian population, the basin supports some of the most profitable economic activities in Kenya and Tanzania, including tourism, agriculture and mining, which collectively contribute between 10-15% to both countries'

[7] Nippon Koei (2013a). The project on the development of the national water master plan 2030. Final Report. Volume III Part F – Tana Catchment Area. GED JR13201 Vol._ 3. Republic of Kenya.
[8] Odhengo et al. (2012). Tana River Delta Strategic Environmental Assessment Scoping Report. Published by the Ministry of Lands, Physical Planning Department.

GDP.[9] Some of the other sectoral economic values generated through the presence of the Mara River are enumerated in the figure below.[10]



2.3.4 The Nairobi River

The Nairobi River is a river that flows across Nairobi, the capital city of Kenya. It is the main river of the Nairobi River Basin, with several parallel streams flowing eastward. All of the Nairobi Basin Rivers join east of Nairobi and meet the Athi River, which eventually flows into the Indian Ocean. The basin is home to about 4 million people. Being in Nairobi, the river is highly polluted with uncollected garbage; human waste from informal settlements; industrial wastes in the form of gaseous emissions, liquid effluents, agro-chemicals, petrochemicals, metals and over-flowing sewers. Efforts have however been made to rehabilitate the river. One such intervention is the Sanitation Improvement Project funded by African Development Bank (AfDB) and is part of the

[9] Nelson, PJ, Nyarangi J, Maritim, Z, n.d. The Trans-boundary Mara River Basin Strategic Environmental Assessment. Prepared for: LVBC, WWF, USAID and the Governments of Tanzania and Kenya.
[10] Source: The Importance of a Healthy, Free-flowing Mara River to the Society and Economy of Kenya and Tanzania, January 2019

Nairobi Rivers Rehabilitation and Restoration Program. The activities include: (i) rehabilitation and construction of wastewater treatment facilities at Dandora, (ii) construction of 220km of sewer reticulation network including faecal sludge management infrastructure, and (iii) construction of 50 ablution blocks and rehabilitation of 50 ablution blocks in Nairobi informal settlements. The project will also directly support Athi Water Services Board (AWSB) and Nairobi City Water and Sewerage Company (NCWSC) to offer improved sanitation services through institutional strengthening.

Another joint flagship initiative of the Nairobi Metropolitan Services (NMS) and UN-Habitat being undertaken by UN-HABITAT and GoK is the Nairobi River Life Project[11], which is part of the broader Nairobi River Regeneration Initiative and is a aimed at reclaiming Nairobi River as a shared public asset. UN-Habitat will provide the technical expertise to restore the river system and prioritize the riverfront development. The Nairobi River Life provides opportunities for regenerating inner city neighborhoods such as the wider Eastlands area, supporting local economies, providing alternative connectivity through a network of green and public spaces and a safe network of walkways and bicycle paths, managing storm water, and creating water reservoirs and water parks.

[11] Restoration of the Nairobi River System, UN-HABITAT, July 2021.

Section III

Potential for Further Development of the Inland Blue Economy

3.1 Why Invest in Lake Victoria Maritime Water Transport

Existing development potential calls for further investments in lake transportation due to the following reasons: (i) the catchment area, which encompasses parts of Kenya, Uganda, Tanzania, Rwanda and Burundi, contains a growing population of nearly 35 million people and a GDP of some USD 30 billion, i.e. about 40% of the total EAC economy; (ii) a number of towns and villages around the lake do not have good road access, (iii) for some routes, the lake option remains the most direct, reliable and efficient route; (iv) affordable and competitive service with the average freight tariff on Lake Victoria being around 7-8 U.S. cents per ton-km and is even expected to decline; (v) the rehabilitation of the railway infrastructure and the revitalization of railway services on the central railway line offers the landlocked countries the potential of a secure inter-modal service from the maritime lake ports; and (vi) the reintroduction of such a service provides an alternative option, in the event of disruption, for traffics currently using Mombasa from Uganda, DRC and Rwanda.

Suffice it to say that Kenya makes the least use of her portion of Lake Victoria, compared to Uganda and Tanzania. This is despite the considerable potential for the country to make use of the relatively low-cost inland water transport to promote trade with especially Uganda and Tanzania through the port of Kisumu and also with the other land locked countries in the region. The critical importance of inland water transport in the Lake Basin is also underlined by its strategic link with the multi-modal transport network converging on Kisumu City as a hub from where road, railway, pipeline and air transport have direct connections to other destinations in Kenya and with all countries in the Great Lakes Region through Tanzania and Uganda. The port has recently been rehabilitated by the Kenyan government with construction works that included dredging operations aimed at improving navigability of big ships and the expansion of the port capacity to handle up to 4,000 containers. It worth noting that inland shipping on Lake Victoria represents an important node of an intermodal supply chain along the Northern and Central Corridors, two multimodal corridors linking, respectively, the Mombasa and Dar es Salaam ports to other East and Central African destinations.

3.2 Ongoing Lake Victoria Basin Investments

3.2.1 Kisumu Port Rehabilitation Project

Located in the third largest city in Kenya, on the shores of Lake Victoria, the second largest freshwater lake in the world, the Kisumu port is one of the key priority projects of the Kenyan government that is expected to increase trade and infrastructural connectivity in East, Central and Horn of Africa Countries. It's worth noting that inland shipping on Lake Victoria represents an important node of an intermodal supply chain along the Northern and Central Corridors, two multimodal corridors linking, respectively, the Mombasa and Dar es Salaam ports to other East and Central African destinations. The project, funded by the World Bank, entails development of

the Kisumu Port into a modern Sh22.5 billion commercial Lake Port to serve the growing trade in the EAC region on a BOT (Build-Operate-Transfer) basis. Subsequently, the port has recently been rehabilitated with construction works that included dredging operations aimed at improving navigability of big ships and the expansion of the port capacity to handle up to 4,000 containers.

Other works undertaken included concreting of the port yard, construction of the quayside, repairs of the link span, revamping the dry dock and rehabilitation of all buildings to boost efficiency. All roads within and the link roads to the port facility have also been repaired and feeder jetties and piers are also being put in place. The port has further been equipped with equipment such as forklift trucks, mobile cranes and tractor-trailers. The ongoing refurbishment of the facility in Kisumu as well as planned repair and upgrade of satellite piers in Mbita, Homa Bay and Luanda K'otieno is projected to further improve merchandise trade in the region.

The revival of the port also involved the revamping of MV Uhuru, a wagon ferry, and the Kisumu Kenya Shipyard Limited, a state agency that will repair, refurbish and rehabilitate ships for use in Lake Victoria. The yard is also expected to embark on building another vessel, MV Uhuru 2, which will be used to ferry petroleum and petroleum products and other goods to neighboring countries. Also part of the newly commissioned facilities is a $4.3 million marine school that will train Kenyans and other East Africa nationals on the management of vessels and other marine activities.

The investment is already bearing fruit. The volume of cargo handled at the revamped Kisumu port jumped to 17,735 tonnes in 2019, a 62 per cent increase compared to 2018. The rise in cargo was buoyed by strong performance, reflecting better efficiency and an overall improvement in trade among partner states of the East Africa Community (EAC). The number of vessels utilizing the port also increased to 41 in 2019 compared to 19 the previous year, representing a 116 per cent jump. The Kenya Pipeline Company (KPC) has also recently completed a loading jetty connected to its depot on the shores of Lake Victoria in Kisumu with a storage capacity of 39,243 cubic meters of fuel for local use and export to Uganda, Rwanda, Burundi, South Sudan and eastern Democratic Republic of Congo (DRC).

3.2.2 The Lake Victoria Marine Transport (LVMT) Project

In line with exploiting the existing potential, The Lake Victoria Marine Transport (LVMT) Project[12] was designed and is under implementation. The Project entails the development and financing of a small fleet of purposely-built Roll On/Roll Off vessels that will offer freight services to customers in the region. Initial service will operate between Mwanza South Port in Tanzania, and Port Bell in Uganda. Electra, which is one of the Principal Developers, is keen on the improvement of the market for marine cargo transport in the Lake Victoria Region by bringing modern, purpose-built cargo vessels, logistics expertise and infrastructure to enhance cargo transport services to customers.

According to the Project Information Document, the following benefits will accrue as a result of the Project:

Primary Economic Benefits

- The LVMT Project will provide new and purpose-built marine transport infrastructure to serve the Lake Victoria Region, improving productivity of the logistics chain, reducing the

[12] World Bank, Lake Vitoria Transport Program (P160955).

cost of imports, increasing the yield from exports and making possible exports and imports that were not previously feasible;

- The LVMT Project will enhance regional trade, increasing trade among Uganda, Tanzania and Kenya, enhancing regional cooperation and integration;
- The LVMT Project will increase the diversification of transport routes within the region, providing alternatives to the Northern Corridor.

Primary Social Benefits

- The Project will directly create over 30 highly-skilled jobs;
- The Project will entail the training of crew thereby enhancing badly-needed maritime skills in the region.

Project Relevance

- The Project will re-introduce scheduled service to Lake Victoria using specialized vessels – current marine service on the Lake is through short-term and *ad hoc* charters that sail only when the vessel is full and not on set schedules

3.2.3 Multinational Lake Victoria Maritime Communications and Transport Project

The project was initially designed as part of the East African Community Development Strategy (2011-2016) and its implementation was up scaled in subsequent Development Strategies covering the periods 2017-2022 and 2022-2026 all of which are aligned to the EAC Vision 2050. These strategies have highlighted the continued need to addressing maritime transportation and navigation safety intervention areas so as to contribute to the provision of safe, efficient, cheap and environmentally friendly transport links and development of other lake region economic sub-sectors that are essential to the achievement the goals of poverty reduction and sustainable development. The project has three main components. Component 1 comprising: (i) Establishment of a Maritime Communications System for Safety on Lake Victoria Maritime Communication Network (MCN), (ii) Establishment of Regional Maritime Rescue Communication Centre (MRCC) in Mwanza, Tanzania; and two other regional sub-centers in Kisumu (Kenya) and Port Bell (Uganda) capable of receiving and responding to distress calls, locating the victims, mobilizing, controlling and coordinating rescue missions by rescue boats, (iii) Establishment of Sixteen Emergency Search and Rescue (SAR) stations distributed around the lake equipped with fast rescue boats and trained crews, Component 2 comprising: (i) development of East African Maritime Transport Strategy to guide the development of the maritime transport sector in the region. The strategy was to elaborate on the approaches for inland and sea ports development, maritime safety and capacity development and (ii) Preparation of Lake Victoria Transport Development Programme that involves assessment of current status; demand forecast and identification of projects required for achievement of the transport network. Component 3 comprises project management. The implementation of this project is having positive socio-economic impacts on the Lake Region Economy and on the lives of all lake side communities. Its negative environmental and social impacts are minimal, localized and short term and are being mitigated through operationalization of proposed mitigation measures contained in the Environmental and Social Management Plan.

In the 2022-2026 Development Strategy, maritime transport is envisioned to be developed into a safe, secure, and efficient transport system. The following key targets will be pursued under this priority area:

a) Sustainable blue economy policies in place by 2026.
b) Policies and regulations governing Maritime Transport and Ports aligned with international best practices.
c) Twenty percent reduction in number of security incidents in both inland waterways and the Indian Ocean.
d) Implementation of three projects in the Lake Victoria and Lake Tanganyika Transport Programs under the Integrated Corridor Development Initiative (Intermodal Strategy).
e) Three additional ports constructed and at least another two modernized.
f) At least two additional container terminals at the ports and inland container terminals.
g) At least three policies in place to support domestication of Africa's Integrated Maritime Strategy 2050 (AIM).

3.2.4 Other Inland Water Transport Initiatives

In addition to the Lake Victoria Region, development of Inland Water Transport is highlighted in the County Integrated Development Plans for Kisumu and Nakuru counties. Sectoral programmes in the upcoming MTP III indicate that there will be need to continue with the revamping of Kisumu Port, Develop a legal framework to facilitate the growth of local entrepreneurs to invest in emerging maritime opportunities in inland water transport in lakes Victoria and Turkana and promote Inland Water Maritime Development. The program will focus on sensitizations of communities and other stakeholders on the benefits of water transport for both commercial and leisure purposes. In L. Victoria, efforts will be made to revamp the current dilapidated port terminals, oil jetties, passenger and wheeled cargo ramps, link span and shallow piers. However, the documents lack enough detail and it is envisaged that more data and information will be availed during the planned field visits and upcoming stakeholders' workshop.

3.2.5 Investments in Transboundary Inland Water Transport[13]

The Nile System provides an excellent opportunity for investments that support the development of inland water transport for the riparian states. Nine of the 11 Nile Basin riparians are endowed with navigable water bodies, and a total of 72 inland water ports between them, with most of them being in Egypt and Uganda. The main areas that are important for inland water transport are the Lake Victoria Region, sections of the White Nile in South Sudan, and the Main Nile in The Sudan and Egypt. It is important to note that in the middle of the 20th century, rivers and lakes formed an important element of the transport system in Egypt, Sudan, and the Nile Equatorial Lakes region. Steamers operating on lakes Victoria, Kyoga, and Albert, and along other navigable parts of the Nile provided a reliable and low-cost connection between the upper and lower riparians. The main types of goods and services using this transport mode comprise agricultural produce, livestock, fish, general merchandise, and passengers. Inland ports, linked to other modes of transport connecting to international markets, also handle export/ import traffic of agricultural products and manufactured goods.

[13] This can be pursued through the Nile Basin Initiative and Kenya is a signatory of the Nile Basin Initiative Co-operative Framework which governs water resources management and development amongst Nile Basin countries.

Over time and due to adopted policies and strategies, the transport system in the Nile Region has been become dominated by roads, rail and air. The road transport dominates all other transport modes and accounts for over 80 percent of both goods and passenger traffic in the region[14]. The existing system for bulk transport was developed during the pre-independence days and focused on moving exports and imports to and from the main seaports. Road and rail interconnections between countries remain relatively few and in poor state thereby leading to low inter-state trade within the region. While infrastructure development through RECs have resulted in considerable improvement in the level of interconnectedness between Nile riparian countries of the African Great Lakes region, and of the downstream riparians, north–south links between the two clusters are evidently missing. This, no doubt, presents a major impediment to meaningful integration of the whole expanse of the Nile Region and contradicts the auspices of continental regional integration efforts such as those of the AfCFTA. It is therefore recommended that countries increase investments aimed at improving inland water transport on Lake Victoria and other navigable parts of the Nile, and increase the integration of inland water transport with other modes, notably road and rail, as a way of bridging the north–south transport and trade divide in the basin[15].

[14] State of the Nile Basin Report 2012.
[15] State of the Nile Basin Report 2012.

Section IV

Conclusion and Recommendations

4.1 Conclusion

From the foregoing disposition, it is evident that Inland Blue Economy should be an integral part of a country's Overall Blue Economy Strategy as it stimulates: cross-sectoral production due to reduced transportation costs, promotes income growth and can be a means the attainment of SDGs and other national and county economic aspirations contained in the respective blue prints. The importance of developing main river catchments including improvement in the navigability of such rivers needs to be prioritized. Transboundary aspects of Inland Water Transport need to be taken into consideration as this promotes economic integration and economic growth.

4.2 Recommendations

a) Lakeside counties should prioritize investments in inter-modal transport system that feeds into an inland water transport system to stimulate income and employment growth,
b) It is recommended that counties increase investments aimed at improving inland water transport on Lake Victoria and other navigable parts of the Nile, and increase the integration of inland water transport with other modes, notably road and rail, as a way of bridging the north–south transport and trade divide in the basin[16],
c) The necessary Legal, Policy and Institutional Frameworks should be put in place to promote resource management, accountability and resource mobilization.
d) A comprehensive study on the navigability of Kenya's main rivers needs to be undertaken as a basin of initiating "bankable" projects along and adjacent to these rivers.
e) Studies on maritime transport for Lakes Naivasha, Baringo and Turkana need to be carried out in order to stimulate social-economic development in the concerned counties.

[16] State of the Nile Basin Report 2012.

References

1. Africa's Integrated Maritime Strategy (2050 Aim Strategy), December 2011.
2. East African Community Regional Blue Economy Strategies, April 2022.
3. The Lake Region Economic Bloc. The Lake Region Blue Print, page 6.
4. Nakyonyi Aisha, Maritime Safety on Lake Victoria, Analysis of the Legal and Regulatory Framework, Universitetet I Oslo, 2011.
5. Kenya Ports Authority, 2018
6. Nelson, PJ, Nyarangi J, Maritim, Z, n.d. The Trans-boundary Mara River Basin Strategic Environmental Assessment. Prepared for: LVBC, WWF, USAID and the Governments of Tanzania and Kenya.
7. Nippon Koei (2013a). The project on the development of the national water master plan 2030. Final Report. Volume III Part F – Tana Catchment Area. GED JR13201 Vol._ 3. Republic of Kenya.
8. Nippon Koei (2013a). The project on the development of the national water master plan 2030. Final Report. Volume III Part F – Tana Catchment Area. GED JR13201 Vol._ 3. Republic of Kenya.
9. Odhengo et al. (2012). Tana River Delta Strategic Environmental Assessment Scoping Report. Published by the Ministry of Lands, Physical Planning Department.
10. Restoration of the Nairobi River System, UN-HABITAT, July 2021.
11. State of the Nile Basin Report 2012.
12. State of the Nile Basin Report 2012.
13. State of the Nile Basin Report 2012.
14. World Bank, Lake Victoria Transport Program (P160955).