UNIVERSITY OF NAIROBI

Managing Lake Victoria Basin for Posterity: A Kenya National Policy Dialogue

Richard Mulwa (Prof.)
University of Nairobi

EfD

Setting the Stage…

Natural resources are depletable and globally under immense pressure as the population continues to grow

Unchecked utilization would result to detrimental outcomes where the natural resources available would not support life systems on earth

This calls for sustainable management resources for human survival but challenging especially if the resources are of a transboundary nature.

Lake Victoria basin is an example of such a resource shared by Kenya Tanzania, Uganda – riparian to the lake and Rwanda, Burundi which form part of the basin

The lake is the second largest freshwater lake by surface area globally, and the basin is an essential socio-ecological system endowed with wetlands, rangelands (drylands), forests, woodlands, and farmlands

The Lake and the entire ecosystem provide vital ecosystem services such: as food, transportation, employment, nutrient cycling, tourism, climate regulation, disease control, and flood control

Benefits of the LVB

Agriculture: The Basin supports over **40 million people** doing agriculture. Soils are suitable for growing **cash and food crops**, such as coffee, tea, maize, beans, cassava, sugarcane, an assortment of vegetables, and fruits.

Fishing: L. Victoria is one of the most significant sources of freshwater fisheries. The industry directly supports over **200,000 fishermen and their families and employs over 800,000.** Indirectly, the lake's fishing industry income supports an additional **3 million and is a foreign exchange earner.**

Transportation: Lake Victoria plays a critical role in transportation, connecting the three countries and beyond through major towns in Tanzania such as **Musoma, Mwanza, and Bukoba**, as well as **Port Bell and Jinja in Uganda**, and **Kisumu** in Kenya.

Energy: Dams like Owen Falls not only regulate water outflow but also serve as a significant source of hydroelectric power, primarily serving Uganda towns of **Jinja and Kampala**, and also **exported to Kenya**

Benefits of the LVB

Mining: The basin has vast mineral resources, with significant **metallic and non-metallic** mineral resources found in different parts. For example, Tanzania's Mwanza and Mara regions are experiencing a **rapid expansion in gold production**, with the discovery of one of the highest amounts of gold

Other economic activities in the LVB include **beekeeping, trading, quarrying** etc. The region is also home to iconic tourist attractions such as the famous **wildebeest migration between Mara and Serengeti national parks** and bird watching, among many others

Despite the abundance of natural resources, poverty levels in the Lake Victoria basin remain high, with **41.3% of inhabitants living below the Basic Needs Poverty Line in Tanzania, 39% in Kenya, and 34% in Uganda**

Threats to the LVB

1. Socioeconomic threats

Population Growth and Density: LVB is home to 30% of the total population of the five countries that share it, with an average of 40% residing in urban areas. LVB has among the highest rural population densities globally, averaging 300 persons per sq. km with some areas having up to 1200 people per sq. km. Population increase and density is putting pressure of the resources, causing overexploitation, pollution among others

Fish caging – Fish cage farming has taken over Lake Victoria's fishing business. This idea was welcomed from the beginning since it provided good prospects for income and food security. Its threatening environmental degradation through the discharge of dissolved nutrients from fish feed and excretory products

Artisanal and small-scale mining activities – Lake Victoria basin has rich gold deposits, creating livelihoods for people around the basin. However, the extraction process involves using mercury and sodium cyanide which threaten the lake ecosyste

Threats to the LVB

2. Environment related threats

Eutrophication: Increased use of agrochemicals including some that have been banned has seen the increase of nitrogen and phosphorus in the Lake. The Lake floor experiences prolonged anoxia; algae concentration has more than tripled.

Proliferation of Alien Species: Invasive plant and animal species such as water hyacinth and other invasive sspecis is still a threat in the lake basin

Water Pollution: From both point and non-point sources such as untreated municipal sewage, agricultural waste from incoming rivers, waste from maritime transportation, as well as inflow from runoff and stormwater

Sand harvesting: Industrial-scale sand mining is gaining currency, and the overexploitation of the sand is threatening the very existence of the ecosystems, interfering with fish habitats.

Climate Change: climate change is worsening the impacts of the threats the lake Victoria basin ecosystem. Cases of flooding, droughts affecting water levels and quality have been witnessed

Threats to the LVB

3. Institutional

Lack of harmonized policies and regulatory frameworks among the various institutions mandated with the management and conservation of the lake

Lack of capacity and authority to enforce rules. Kenya coast guard may not be able to operate on a regular basis due to a lack of resources, such as fuel for the boats. They also do not have the power to enforce some of the rules

Unlicensed businesses operating along the shores, such as government-initiated car wash businesses. The wastewater containing chemicals from soap flows into the lake and causes pollution

The case for a national dialogue on LVB

Kenya is among the three riparian countries to lake Victoria with 6% share. Multiple rivers feed into Lake, such as Nzoia, Yala, Nyando, Awach Sondu-miriu, and Mara Rivers.

Kakamega, Mau, Elgon, Nandi, and Cherangany Hills are the primary forests in the region which form sources/catchment of most of the rivers and …

… also provide fuelwood, timber, medicinal plants, wild fruits and vegetables, and honey, as well as critical services like biodiversity protection, climate regulation, flood and soil erosion control, nutrient cycling, and soil formation

The natural ecosystems in the catchment LVB have cultural significance and are utilized for education, recreation, and tourism activities for instance, the mara ecosystem.

The provision of these benefits are being threatened by major challenges facing the lake and its catchment areas such as climate change, deforestation, soil erosion, pollution, and wetland drainage etc

The case for a national dialogue on LVB

There has been discussions, dialogues, collaborations, policies and laws that are all targeted in conserving, protecting and ensuring sustainable use of the natural resources within the lake basin.

Still, we are witnessing continued unstainable utilization of resources, pollution, ecosystem damages, biodiversity losses etc Thus, benefits and challenges of LVB are not new to the local communities, academia and policy corridors

The target for policy making on the lake basin and its ecosystem has been a moving target and would require a dynamic, adaptive, and collaborative approaches in balancing utilization and conservation.

Thus continued reviews and dialogues that incorporate the changing dynamics e.g. changing climate are needed.

Question is: What solutions exist for sustainable utilization of resources in the basin?

Some suggested interventions

National

Advocate integrated organic agriculture to reduce use of agrochemicals

Promotion of sustainable land use practices such as agro-forestry, crop rotation, conservation agriculture

Elimination of the destructive fishing gears and enforcement of the allowable catch.

Enhance waste management technologies and incorporate the oil spills management plan

Some suggested interventions

National

Adoption of cleaner production technologies in industrial sector and mining sector

Eliminate the use of cyanide and use the GDA (Gold Dressing Agent)

Regulation of the aquaculture and develop MSP for suitability mapping and the use of the best management practices

Promote conservation activities and integrate environmental considerations in our County Integrated Development Plans (CIDPs)

Advocacy, networking, lobbying to expedite the enactment of many of the regulations that may govern activities in Lake Victoria that are still drafts

Some suggested interventions

Regional

Development of an integrated Lake Victoria Basin Management Policy/Regulation

Constitute a regional monitoring commission under the East African Community

Enactment of draft regulations by the Lake Victoria Basin Commission (LVBC)

Establish an enforcing body that cuts across the five countries that share the resource.

Engage organizations on Extended Producer Responsibility (EPR) so each is responsible for waste collection and management around the basin

Thank you