



EAST AFRICAN COMMUNITY
LAKE VICTORIA FISHERIES ORGANIZATION

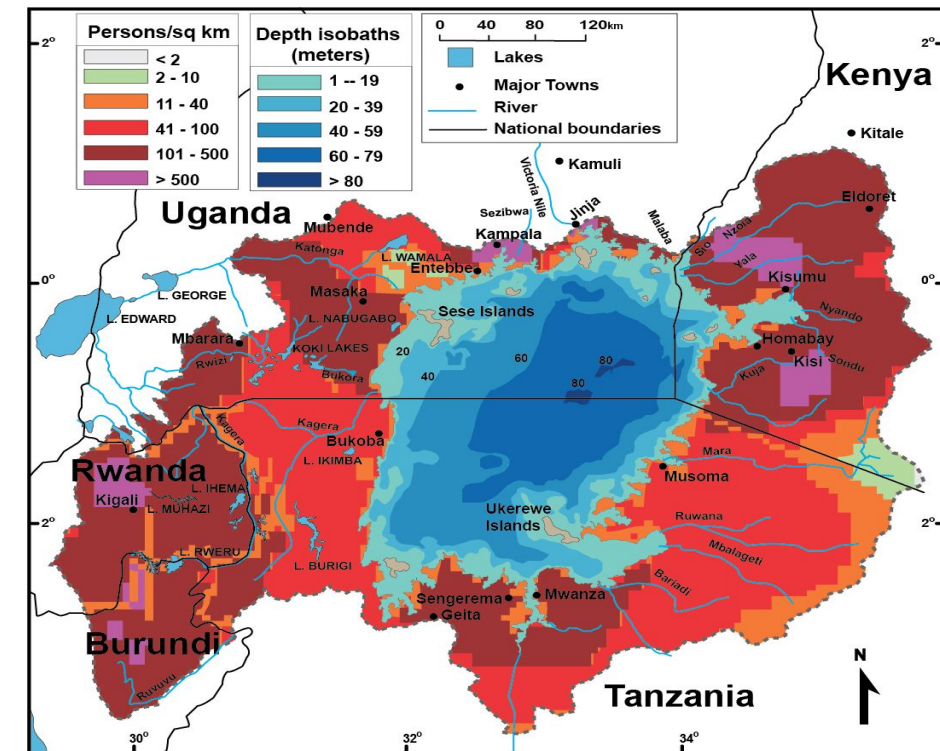


WATER QUALITY MANAGEMENT ISSUES AND IMPACTS ON INLAND FISHERIES IN THE LAKE VICTORIA BASIN



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Overview of Water Quality Issues in LV Basin

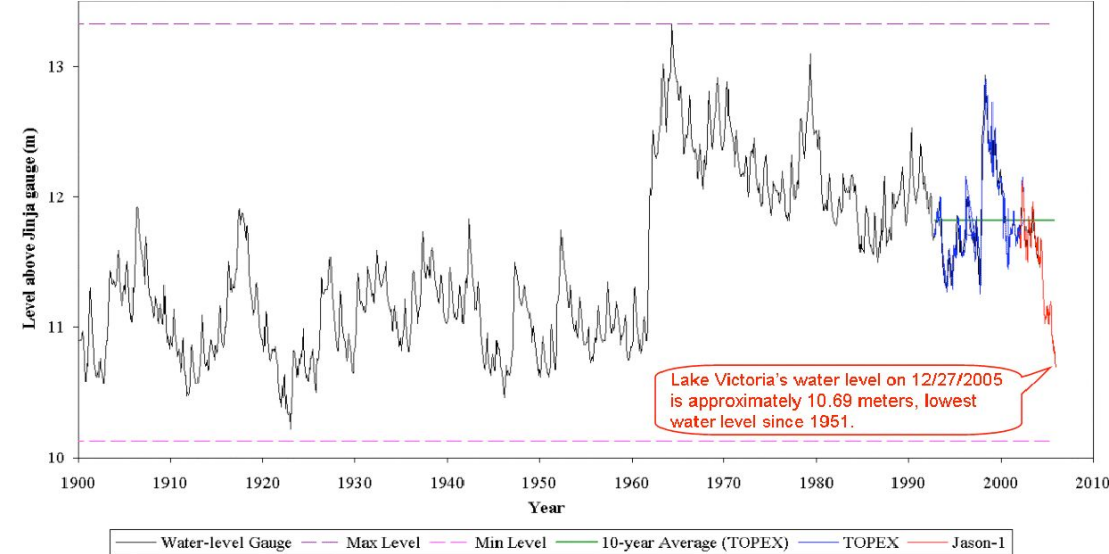
- Water Quality Management is crucial for environment, ecosystem services, and inland fisheries
- Water Quality issues:
 - **Pollution and Eutrophication** (*from industrial discharge, agricultural runoff, and untreated sewage*)
 - **Sedimentation:** (*from Increased deforestation, poor land-use practices, and agricultural activities lead to high sediment inflow degrades water quality by increasing turbidity*)
 - **Invasive Species:** (*Water hyacinth and Kariba weed –Salvinia molesta*)



Overview of Water Quality Issues

- **Water quality issues:**
 - **Climate Change:** (Altered rainfall patterns , erratic weather, storms, and changing water levels)
 - **Waste Management and Industrial Discharge** (Waste from urban areas and industries located near the lake, such as sugar, brewery, and fish processing plants)
 - **Decreasing Oxygen Levels** (due to pollution and eutrophication) leading to stratification of the water column -dead zones (areas with little or no oxygen);
 - **IUU fishing** (illegal monofilament nets a danger to environment)

Historical Water Level Elevations for Lake Victoria



Data Source:
Historical water level gauge data from Jinja, Uganda (near Lake Victoria's outlet).
Satellite radar altimeter data from USDS/NASA/UMD at:
http://www.pecad.fas.usda.gov/cropexplorer/global_reservoir/

U.S. Department of Agricultural (USDA)
Foreign Agricultural Service (FAS)
Production Estimates & Crop
Assessment Division (PECAD)



Impacts of Water Quality Issues to inland fisheries and aquaculture

Eutrophication – hypoxia - caused fish kills especially for fish species, especially those sensitive to low oxygen levels, like Nile perch

Invasive species - disrupt the food web and compete with native fish for resources

Pollution - long-term detrimental effects on fish health and productivity, impacting both biodiversity and food security in the region.

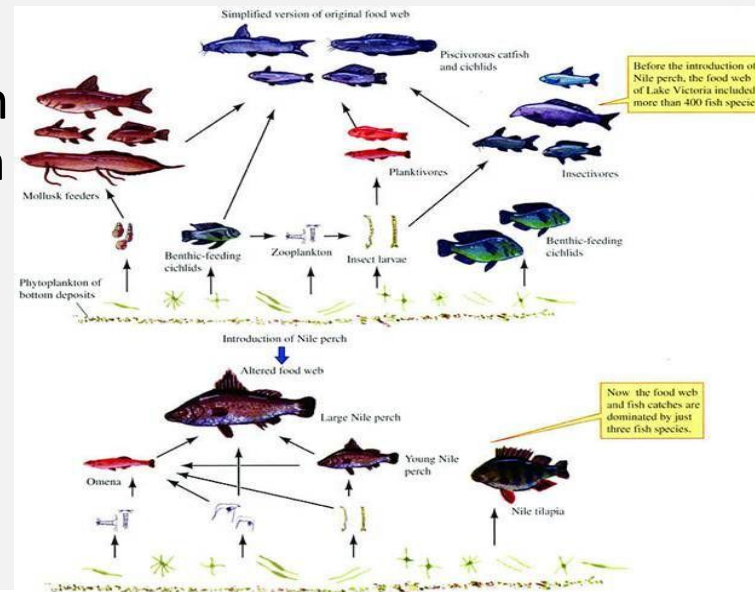
Climate Change- impacts on aquaculture production systems, fishing, fish species abundance and distribution

Long term effects

Reduced contribution of fisheries and aquaculture to food security and incomes;

Overall biodiversity loss

Less benefit to the community resource users



Regional Water and Fisheries Management Bodies on transboundary cooperation

Lake Victoria Basin Commission (LVBC)

LVBC -Principal body for addressing transboundary water issues and fostering cooperation between the riparian states (Kenya, Uganda, Tanzania, Rwanda, and Burundi).

Lake Victoria Fisheries Organization (LVFO)

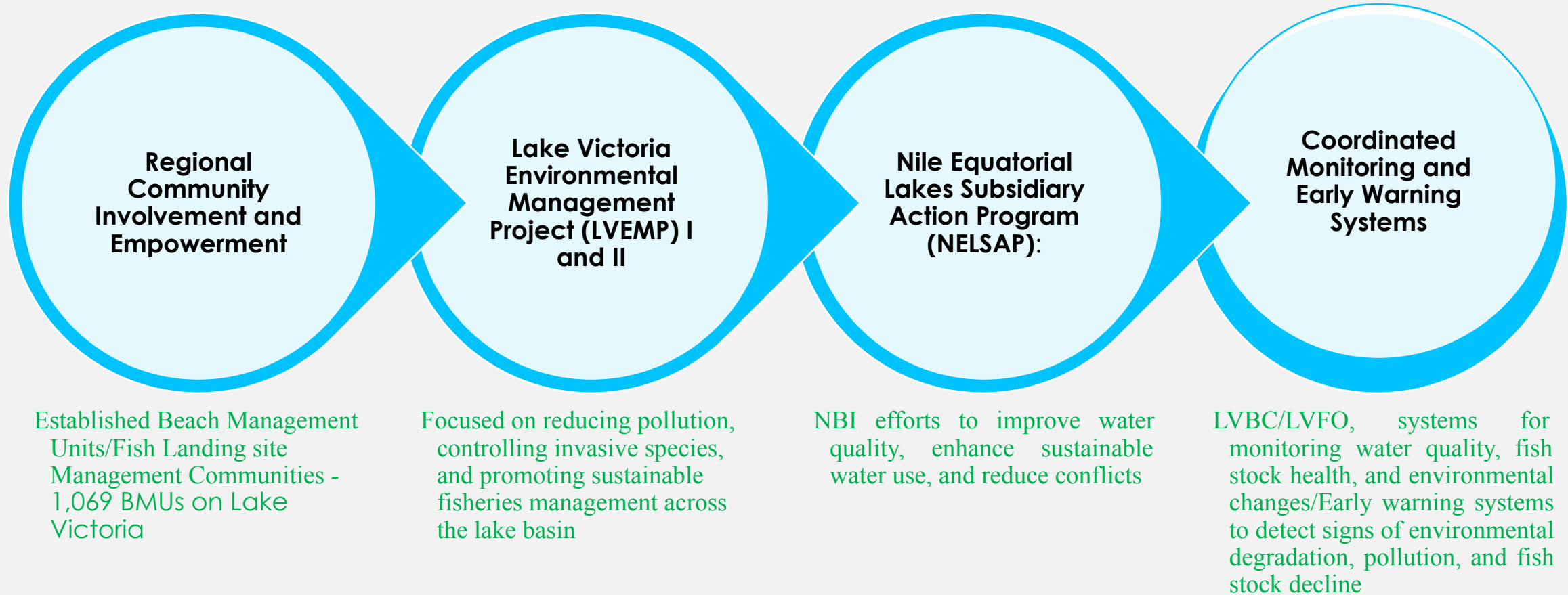
Specialized institution for managing and sustaining the lake managing and sustaining the Lake Victoria fisheries and aquaculture

Nile Basin Initiative (NBI)

Promotes cooperation among the Nile riparian states (including Uganda, Kenya, and Tanzania) to manage shared water resources equitably with implementation of IWRM practices

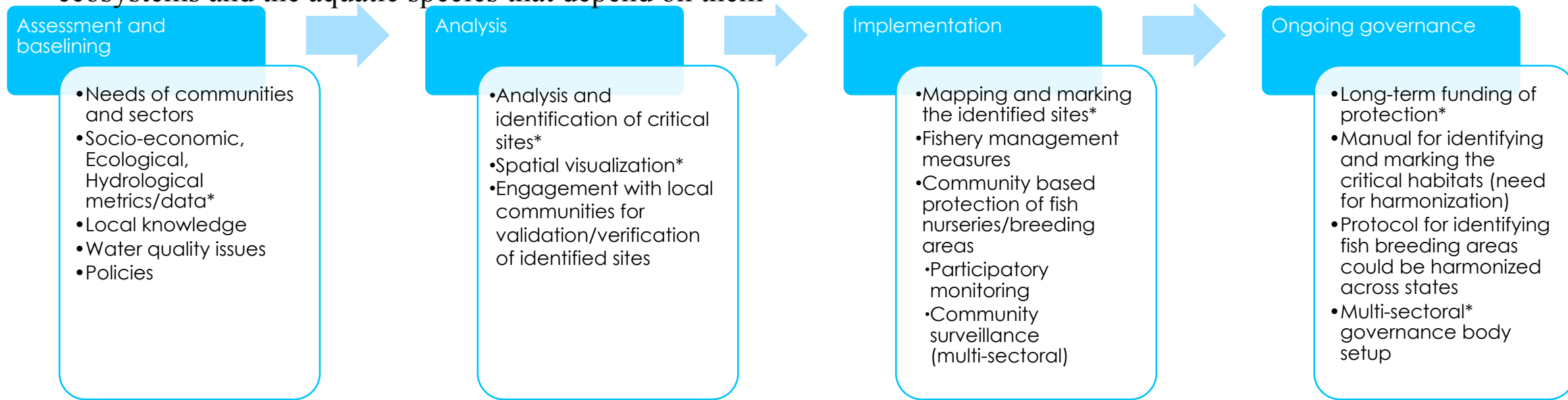
Complemented by Development Partners (WB,EU,IFAD, FAO Regional Economic Blocks (EAC, COMESA, IGAD), collaborative arrangements with other RFMOs (LTA, IOC) and Blue Economyline Ministries Departments and Agencies)

Transboundary Cooperation Measures and Plans



Required efforts in Governance, Enforcement, and Investment in Environmental Protection

- Identifying and protecting biological significant areas such as fish nurseries and breeding areas in Lake Victoria to enhance sustainability
- Promoting mechanisms for halting and reversing habitat loss and degradation so as to ensure the long-term health of ecosystems and the aquatic species that depend on them



*Potential collaboration areas between LVFO and LVBC across project cycle


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graph TD; Gov[Government of Karnataka] --> Ag[Agriculture Department]; Gov --> Liv[Livestock Department]; Gov --> For[Forest Department]; Gov --> WR[Water Resources Department]; WR --> Irr[Irrigation Department]; WR --> Pow[Power Department]; WR --> Ind[Industry Department]; Pow --> Fish[Fisheries Department]; Pow --> Env[Environment Department]; Pow --> Trans[Transport Department]; Pow --> Tour[Tourism Department];
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Government of Karnataka

- Agriculture Department
- Livestock Department
- Forest Department
- Water Resources Department
 - Irrigation Department
 - Power Department
 - Fisheries Department
 - Environment Department
 - Transport Department
 - Tourism Department
 - Industry Department



Water

“Effective transboundary water management is crucial for peace, security, and the sustainable development of shared water resources. Cooperation over shared waters brings significant economic, social, and environmental benefits to riparian countries”



We are eating up the earth by activities like deforestation, use of fossil fuels, and as a result the earth is warming up, pollution is increasing to the extent that our fish may in near future need oxygen masks and we shall lose most of the species.

“We must therefore take action now”

Thank You