



## Lake Victoria Flooding

### Knowledge Gaps and Policy Implications

#### Key Lessons

- Political commitment and leadership are necessary at multi-levels of government.
- All stakeholders need timely warning from scientific forecasts communicated to them in clear formats in order to effectively prepare for potential calamities.
- Disaster response requires meaningful stakeholder engagement shaped by local contexts and political dynamics.
- Adequate financial planning and allocation towards disaster preparedness at the county level is critical for coping and resilience building.

#### Participating Panelists

- **Dr Francis Mutua**, Department of Meteorology, University of Nairobi
- **Ms Anne Tek**, Council of Governors.
- **Prof Dan Olago**, National Focal Point, International Lakes Environment Committee
- **Dr Musonda Mumba**, UN Environment, Ecosystems Division
- **Mr John Manyolo**, Lake Region Economic Bloc (LREB)

#### Moderator

**Dr Evans Kituyi**, Director  
East Africa Institute, Aga Khan University



Severe rains throughout Kenya have resulted in mass destruction. From hundreds of innocent citizens dead, to hundreds of thousands displaced from their homes, to infrastructure and thousands of hectares of cropland destroyed. Bearing the brunt of the calamity are the communities in counties surrounding Lake Victoria in Kenya. Most homes and farmlands now lie submerged under the lake backflow. After decades, the unprecedented downpour in the region has caused the lake level to rise significantly. Scientists attribute 80% of the lake's water input to rainfall and 20% to feeder rivers, of which Lake Victoria has 23 traversing all five East African countries. There are public concerns about the timing of this flooding, the level of intervention and impact by government agencies and humanitarian organisations and concerns about reoccurring floods in the future. In this light, the East Africa Institute convened a virtual gathering of six expert panelists, joined online by 83 participants on 11 May 2020, to elucidate this phenomenon, and identify potential coping interventions, long-term resilience building strategies and knowledge gaps. The following is a summary of the key points and views expressed by participating panelists.

#### *What is Happening and Why?*

The panel identified the following potential factors to have contributed to the Lake backflow and its disastrous aftermath:

#### **Unpreparedness**

Within a short time-span, intense rainfall over the lake has been linked to a 60-year cycle (1899 – 1961—2020); this pattern serves as a warning that another flooding episode may occur around the year 2080. This current flooding episode had been anticipated and discussed during the Great Horn of Africa Climate Outlook Forum (GHACOF) held in January 2020 in Mombasa. Only a few institutions seriously considered these warnings, while most public institutions and communities failed to prepare.

**Land-use change**

Compared to today, the 1961 Lake Victoria flooding was not as widespread or destructive; this is largely attributed to the fact that poor land-use practices over the years have caused changes in land-cover. The predicted 2080 flooding could be worse, as land degradation across the entire basin is projected to worsen over time.

**Delayed irrigation/Flood control projects**

Disagreement with community leaders on design and land compensation disputes with the National Land Commission may have interrupted the Kenyan government from implementing reliable mitigation measures. For example, the Lower River Nzoia Irrigation and Flood Mitigation Project is yet to be completed despite heavy financial investment by international funders. This project would have helped end the perennial flooding problem that often left a trail of destruction whenever the river burst its banks each rainy season.

**Attachment to ancestral land**

Previous offers to relocate populations from perennially affected areas have failed. For example, Budalangi community members were asked by the former Vice President Kijana Wamalwa government to permanently relocate to Trans Nzoia County and have their ancestral land converted to dams. This request was rejected by habitants after the issue was politicized.

**Political Leadership: Central and County Levels**

Effective leadership includes political commitment at various levels and dedicated local leadership from chiefs and sub-county administrators. Most county governments around the Lake have taken leadership in setting up disaster response committees and early warning systems; they also engage in activities promoting afforestation, climate smart agriculture and health and energy infrastructure. The *Council of Governors* (COG) Secretariat has played a major role in ensuring that Governors receive adequate information for local planning.

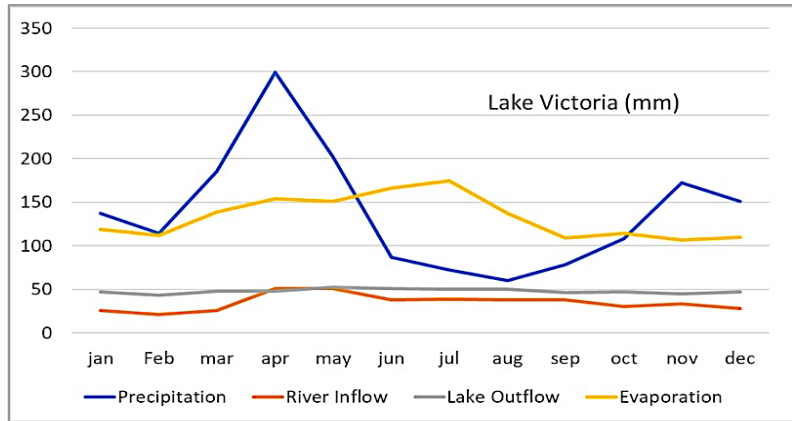


Figure 1. The average annual patterns of lake water input and outflow

**Disaster Response Strategies: Learning from Humanitarian Organisations and Government**

**Early Warning Predictions: We need innovative models for sustainable development and environmental conservation** Drawing on *seasonal forecasts and impact-based forecasting*, Kenya Red Cross Society’s disaster response plan ensures that county governments are able to interpret early warning information with well-equipped communication strategies. All lakes within the Eastern region fall victim to flooding, creating a demand for innovative ways to control the lake catchment and flood waters. Preparation for extreme weather events in the near future is vital; forecast-based financing may enable adequate response times.

**Response Capacity: We need to communicate information and build cross-sector engagement**

Scientific seasonal forecasts allow for speedy response times. On the forefront, the Kenya Red Cross Society has managed the flooding with early warning information, disaster management plans and financial resources. Unfortunately, resources were overwhelmed due to the large scale and scope of the disaster. To support plan development and implementation, many counties form advisory committees comprised of experts, community members and county assembly members (MCAs). Counties’ lack of funding allocated for disaster risk management prevented several county governments from implementing interventions on time.

**Leadership: We need involved actors to anticipate, prepare for and coordinate interventions**

The *Lake Region Economic Bloc* (LREB) is working with partners like *UNICEF* to assess the impact of the flooding in the region and propose interventions that could improve the resilience of those affected, offer employment options and lower vulnerability. LREB is also working on an industrialization plan with a special economic zone around the plains to minimize rural-urban migration and ensure alternative land-utilization around the recurrently flooding plains.

EAI's mission is to provide a coherent and impartial evidence-based platform for policy formulation, decision-making and action to address the challenges and harness the opportunities for adaptive and sustainable social and economic development while ensuring a resilient environmental resource base.



**East Africa Institute,  
The Aga Khan  
University**

**No 6, Peponi Rd, 2<sup>nd</sup>  
Floor | P.O Box  
30270 00100  
Nairobi, Kenya**

**[eai@aku.edu](mailto:eai@aku.edu)**

**[www.aku.edu/eai](http://www.aku.edu/eai)**

## Recommendations

Kenya must shift its reaction to disasters from reactive to prepared. National, county and local administrations must be involved in the preparation, planning and response phases. From government and development actors to the private sector and local communities, close coordination between stakeholders is fundamental for disaster relief efforts.

Frameworks to facilitate *inter-generational knowledge exchange* amongst communities could protect ecosystems and prevent flooding disasters from recurring in the same areas over time.

### Knowledge and Capacity Gaps

- I. *Hydro-climate systems and environment monitoring at the lake and the lake basin in Kenya and East Africa* – monitoring is critical for knowledge management and informed decision-making.
- II. *Knowledge, Perception and Behaviours of people living in the lake basin* - Flooding is more than geology and hydrology, but also inhabitants. Training and research in geology and hydrology should include human behaviour.
- III. *Attribution of anthropogenic factors to flooding* – Considering the role of human activity in environmental degradation, we need to look at things holistically and not as an isolated process. The world is increasingly becoming a socio-ecological system and there is need to look at it from a trans-disciplinary point of view.
- IV. *Capacity building of graduates studying water science courses in tertiary institutions* - There has been a decrease of people studying water and water resources at the university-level. Although the courses exist, the job-market needs to create demand in this field in order to attract graduates.

*Dr. Evans Kituyi is Director of the Aga Khan University's East Africa Institute.*

*Mercy Karumba is a Programmes Officer at the Aga Khan University's East Africa Institute.*

*Email: [evans.kituyi@aku.edu](mailto:evans.kituyi@aku.edu);  
[mercy.karumba@aku.edu](mailto:mercy.karumba@aku.edu)*

*The views expressed in this brief remain those of the authors.*

### Policy Recommendations

- I. *Enhance collaboration (technically and politically) of riparian states to manage a healthy and sustainable lake*– Kenya, Uganda, Tanzania, Rwanda, Burundi.
- II. *Develop regional and national settlements policies in the lake basin to protect wetlands* – Settling around the watersheds plays a big role in major destruction and loss of life in the event of flooding. The national, county and regional institutions need to develop settlement policies to protect the lake basin.
- III. *Improve financing and resource channeling mechanism* – There is no uniform or systematic mechanism to channel resources to the county-level; each county uses its own strained resources to respond to disaster. There is need for clear clauses indicating the proportion of the budget that should be intentionally set aside to respond to disaster.
- IV. *Enhance institutional arrangements for disaster management* - Policies should distinctly highlight the various roles of different institutions and departments at the county level as it pertains to disaster management.
- V. *Establish proper data management structures* – There needs to be a clear structure on who receives data and how said data will be utilized.