









Ukama Ustawi: Diversification for Resilient Agrifood Systems in East and Southern Africa



REGION IN KENYA

DATE: 25TH-26TH SEPTEMBER 2023 VENUE: FLORENCE HOTEL, MIGORI

BACKGROUND

Globally, over 500 million people depend on aquatic food production for their livelihood (FAO 2016, 2022). Global capture fisheries output in 2020 (excluding algae) was approximated at 90.3 million tonnes, valued at an estimated USD 141 billion. This output included 11.5 million tonnes from inland waters and 78.8 million tonnes from marine waters. Of the estimated 58.5 million people engaged in aquatic food production as full-time or part-time workers, 65% are employed in capture fisheries (FAO, 2022). Due to the rising of surface water temperatures, it is predicted that fish productivity will grow in areas of high latitudes and decline in areas of mid- or low latitudes, with significant variability (Barange et al., 2018; Lam et al., 2016). A large part of the expected consequences of climate change are substantially negative (IPCC 2007). According to Brander (2010) and Sumaila et al. (2011), non-climatic pressures on fisheries such overfishing, pollution, and habitat loss is expected to get worse because of climate change. People whose livelihoods depend on fishing as well as entire nations' economy are impacted by the combined consequences of fish productivity and distribution changes (Lam et al., 2016; Perry et al., 2009). Sea-level rise, land erosion, changes in temperature, and rainfall may all damage the land-based infrastructure. These effects make fishery-dependent livelihoods vulnerable, especially in small-scale fisheries (SSFs) (lwasaki et al., 2009; Hanich et al., 2018).

CLIMATE CHANGE IN THE LAKE VICTORIA REGION

The Lake Victoria fishery currently supports more than 200,000 fishers (LVFO, 2014), with an estimated 35 million people dependent directly or indirectly on it for a living (Weston, 2015). The Lake Victoria fisheries contribution to the GDP in terms of food, income, employment, and foreign exchange earnings is 0.8% in Kenya (KNBS, 2022). The fishery resources of Lake Victoria are contributing enormously to the livelihood of the communities and the riparian states in terms of food security, employment, wealth generation, foreign earnings, and other multiplier effects. The Kenyan side of the lake accounts for over 69% of the total national freshwater fish production (KNBS, 2022). The earnings from the lake fisheries are a major contributor to economic growth around the riparian counties. The Lake Victoria fisheries has undergone some of the most intense ecological disturbances ever seen in a big freshwater ecosystem, attributed to both climatic and non-climatic pressures (Kolding et al., 2014; Niiru et al., 2018). The Lake Victoria region faces a very serious challenge because of climate change. It is anticipated that it will pose a threat to the Nile perch fishery, deteriorate the condition of the lake's environment, compromise food security, promote waterborne illnesses, and worsen eutrophication (Johnson, 2010). Climate change has had a negative impact on Lake Victoria fisheries and fishery-dependent livelihoods. As a result, communities who depend on fishing have limited access to necessities like food and money. The restricted options available to the communities make this problem worse by restricting their options for survival (Baki et al., 2015). The effects of climate change on fisheries at the local levels are still not widely studied. Investigating how climatic variability and change affect fishing communities and households may be helpful in identifying and describing counterproductive actions.

ORGANISATION OF THE WORKSHOP ON CLIMATE CHANGE, GENDER, AND LIVELIHOODS

Despite its significance, little is known about how vulnerable fishery-dependent livelihoods are on a local level due to climate change. Most research has concentrated on the impact of climate change on fisheries systems at the global, regional, and country scales (e.g., Allison et al., 2009; Barange et al., 2018; Dulvy et al., 2011; Mboya, 2013). To fill this gap, WorldFish commissioned a scoping study to assess how climate change affects the fishing communities in two riparian counties along Kenya's Lake Victoria - Migori and Homa Bay, which are hotspots of community vulnerability to climate change because of the high rates of poverty. Thus, WorldFish together with the Stockholm Environment Institute (SEI) have organized a workshop on Climate Change, Gender, and Livelihoods in Migori and Homa Bay. The workshop will be organized around sessions that include a mix of plenary presentations, group breakout sessions and demonstrations of key technologies.

WORKSHOP OBJECTIVES



Share with the participants evidence on the impacts of Climate Change and Fisheries globally and in Kenya;

Present preliminary findings and obtain feedback on the scoping study on study on adaptation to impacts of climate change on fishing communities in Migori and Homa Bay Counties; and

Identify interventions and measures that can contribute towards strengthening adaptation and resilience to the impacts of climate change in the fisheries sector in Migori and Homa Bay counties as it relates to Governance of fisheries resources, Technology and Value Addition, Financing, and Education and Awareness.

EXPECTED OUTPUTS FROM THE WORKSHOP

The following shall be the expected outputs from the workshop:

1) Report of the Proceedings from the Workshop discussion;

2) Feature Story on the Impacts of Climate Change on Fisheries in the Lake Victoria Region; 3) Recommendations for improvements in relevant policies for fisheries, climate change and gender, at the county level (e.g., CIDP), and national level (e.g., National Climate Change Action Plan 2023-2027); and

4) Recommendations for practical interventions to increase adaptation and resilience to climate change in the fisheries value chain.

EXPECTED PARTICIPANTS

The workshop will bring together about 40 key stakeholders, including representatives from the National and County Government, local fishing communities, NGOs operating in the fisheries sector, researchers and scholars, and private sector agencies including financial institutions (Cooperative societies and banks).

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REFERENCES

Allison, E. H., Perry, A. L., Badjeck, M. C., Neil Adger, W., Brown, K., Conway, D., ... & Dulvy, N. K. (2009). Vulnerability of national economies to the impacts of climate change on fisheries. Fish and fisheries, 10(2), 173-196.

Baki, M. A., Islam, M. R., Hossain, M. M., & Bhouiyan, N. A. (2015). Livelihood status and assessment of fishing community in adjacent area of Turag-Buriganga River, Dhaka, Bangladesh. International Journal of Pure and Applied Zoology, 3(4), 347-353.

Barange, M., Bahri, T., Beveridge, M. C., Cochrane, K. L., Funge-Smith, S., & Poulain, F. (2018). Impacts of climate change on fisheries and aquaculture. United Nations' Food and Agriculture Organization, 12(4), 628-635.

Brander, K. (2010). Impacts of climate change on fisheries. Journal of Marine Systems, 79(3-4), 389-402.

Dulvy, N. K., Reynolds, J. D., Pilling, G. M., Pinnegar, J. K., Phillips, J. S., Allison, E. H., & Badjeck, M. C. (2011). Fisheries management and governance challenges in a climate change.

FAO. (2016). The State of World Fisheries and Aquaculture 2016: Contributing to food security and nutrition for all. Rome, Italy.

FAO. (2022). The State of World Fisheries and Aquaculture 2022: Towards Blue Transformation. Rome, FAO, 1–11. https://doi.org/10.4060/cc0461en

IPCC (2007) Climate change 2007: impacts, adaptation and vulnerability: Contribution of working group II to the fourth assessment report of the Intergovernmental Panel on Climate Change. In: Parry ML, Canziani OF, Palutikof JP, van der Linden PJ, Hanson CE (eds) Cambridge University Press, Cambridge

Hanich, Q., Wabnitz, C. C., Ota, Y., Amos, M., Donato-Hunt, C., & Hunt, A. (2018). Small-scale fisheries under climate change in the Pacific Islands region. Marine Policy, 88, 279-284.

Iwasaki, S., Razafindrabe, B. H. N., & Shaw, R. (2009). Fishery livelihoods and adaptation to climate change: a case study of Chilika lagoon, India. Mitigation and adaptation strategies for global Change, 14, 339-355.

KNBS. (2022). Economic Survey Report 2022. In Economic Survey 2022. https://www.knbs.or.ke/economic-survey-2022/

Kolding, J., Medard, M., Mkumbo, O., & Van Zwieten, P. A. M. (2014). Status, trends and management of the Lake Victoria fisheries. Inland fisheries evolution and management—case studies from four continents. FAO Fisheries and Aquaculture Technical Paper, 579, 675.

Lam, V. W., Cheung, W. W., Reygondeau, G., & Sumaila, U. R. (2016). Projected change in global fisheries revenues under climate change. Scientific Reports, 6(1), 32607.

LVFO. (2014). Regional status report on the Lake Victoria biennial frame surveys between 2000 and 2014. Jinja, Uganda: Lake Victoria Fisheries Organization. Weston, M. (2015). Troubled Waters. Why Africa's largest lake is in grave danger. http://www.slate.com/articles/news_and_politics/roads/2015/03/lake_victoria_is_in_grave_danger_africas_largest_lake_is_threatened_by.html [uploaded 7/05/2016)

Mboya, O. (2013). Effects of weather and climate variability on fishing activities and fishers' adaptive capacity in mbita division-homa bay county. Kenya (Doctoral Dissertation, Kenyatta University).

Njiru, J., van der Knaap, M., Kundu, R., & Nyamweya, C. (2018). Lake Victoria fisheries: Outlook and management. Lakes & Reservoirs: Research & Management, 23(2), 152-162. https://doi.org/10.1111/lre.12220

Perry, R. I., Ommer, R. E., Allison, E. H., Badjeck, M. C., Barange, M., Hamilton, L., ... & Sumaila, U. R. (2010). Interactions between changes in marine ecosystems and human communities. Marine ecosystems and global change, 221-252.

Sumaila, U. R., Cheung, W. W., Lam, V. W., Pauly, D., & Herrick, S. (2011). Climate change impacts on the biophysics and economics of world fisheries. Nature climate change, 1(9), 449-456.