# Lessons from Social Impacts of Climate Change on Indigenous People from a Dam in Africa





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### Introduction

• Investigate how the impacts of a hydropower project on local indigenous people are amplified by climate change and other intersecting factors

• briefly **Explore** actionable methods to effectively address these complex challenges.



# Project Background

- •The project involves the construction of a hydropower dam, the fourth on the same river.
- •Downstream of the dam live several indigenous groups whose subsistence has always been tied to the river and the lake.
- •The third dam on the river, operational for years, has blocked the river's cyclical floods.
- •For these reasons, during the ESDD phase, it was requested the Project both to develop a Downstream Social Development Plan and to support any government plan for the protection of the lake.





# Systemic Social Challenges

#### Disruption of Traditional Livelihoods:

- Previous dams and agriculture damaged farming/fishing systems.
- Pushed communities toward subsistence crises.

#### **Dependence on Natural Resources:**

- Livelihoods tied to fishing, farming, pastoralism.
- High sensitivity to environmental changes.

#### Historical Marginalization and State Neglet:

- Indigenous communities excluded from political processes and development.
- Poor infrastructure, lack of basic services (education, healthcare, clean water), weak legal protections.

**Interethnic Conflict** 

Resource scarcity fuels tensions and violence.

# The climate change variable

#### Initial ESDD Assumptions:

Expected reduced precipitation → more droughts and water scarcity.

#### Unexpected Climate Dynamics (2021 Study):

Reality differed from projections: fragmented regional impacts.

#### Northern Highlands:

• Severe drying  $\rightarrow$  worse droughts, water stress.

#### Southern Sub-Basins:

• Increased rainfall  $\rightarrow$  higher river flows, flood

#### risks.

#### **Regional Water Imbalance:**

• Floods in the south vs. droughts in the north.

## Additional pressures: the sugarcane case

• Large-scale sugarcane plantations divert 3.9% annual 12% of dry-season river flows.

• Direct threat to lake health and community water access:

- Fertilizer and pesticide runoff leads to pollution.
- Risk of eutrophication (algal blooms harming water quality).
- Groundwater depletion exacerbates scarcity for Indigenous communities.





# The Threat Multiplier Effect

Climate change intersects with existing vulnerabilities, creating compounding crises that:

- Amplify impacts on marginalized groups
- Intensify resource pressures
- Overwhelm traditional coping mechanisms
- Trigger systemic failures across social, economic and environmental systems

#### Result:

A self-reinforcing cycle of vulnerability that demands integrated solutions addressing root causes and climate impacts.



## Rethinking Project Planning and Strengthening Community Resilience

Building climate resilience demands transformative planning approaches that address interconnected challenges through continuous adaptation and community empowerment.

Core principles:

- •Dynamic climate monitoring
- •Multi-sector integration
- •Adaptive design

•Community-led solutions

•Livelihood diversification



## Let's continue the conversation!

Message me your questions or comments in the IAIA25 app.

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