

Fishers believe their activities have a strong impact on the Nile perch stock fluctuations

MultiTip Policy Brief #3

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Management of the Lake Victoria Nile perch (NP) fishery is challenging and there is an ongoing debate on the effectiveness of enforcement and bottom-up approaches like BMUs. Our research findings show that fishers believe their fishing practices have a strong impact on the Nile perch stock. This suggests that enhanced engagements of the fishers in management may have potential because it aligns with fishers' perceptions. These findings stem from collaborative research with regional fisheries institutions where we investigated fisheries stakeholders' perceptions of the drivers of the NP stock decline.

Key Insights:

- Stakeholders in Uganda, Kenya and Tanzania demonstrate a high degree of agreement on the drivers of the NP stock decline:** There is a strong perception among most stakeholders that Nile perch stock is declining. Stakeholders also tend to agree on what is causing the decline.
- Fishers are in agreement that fishing activities are a key driver of stock decline:** Fishers agree with each other on their impact on the fish stock. The key drivers of the stock decline are perceived to be fishing in breeding grounds, overfishing and the use of destructive gear (Fig. 1).
- Destructive fishing activities are perceived to be influenced by overfishing (the number of fishers in the lake), fishers' (lack of) awareness of sustainable fishing practices, corruption and monitoring (Fig. 1).**

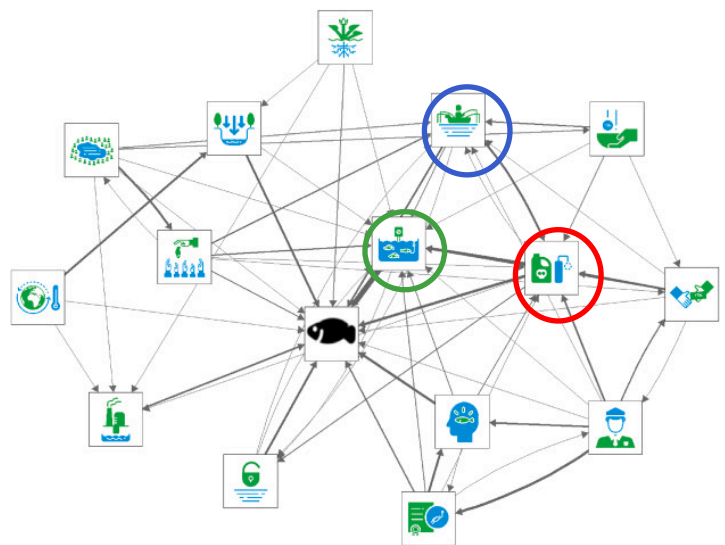


Figure 1: This is the average mental model of Tanzanian fishers on the drivers of the NP stock fluctuation. Key drivers are fishing in breeding grounds (green circle), overfishing (blue circle) and the use of destructive fishing gear (red circle).

4. **This perceived responsibility among fishers could be a leverage point** to dissuade them from engaging in unsustainable fishing activities. Since fishers' mental models ascribe the decline in NP stock to their fishing activities, putting fishers in charge of managing the stock may help achieve changes in fishing practices, for example through instituting user rights to enable custodianship.

Methodology

Through a collaborative effort with local fisheries institutes, we conducted seven studies in Uganda, Kenya and Tanzania, including nearly 500 participants. Methods used include interviews, surveys and new software designed for the MultiTip project: the mental model mapping tool (M-Tool). This research has enabled us to understand and assess fishers' preferences and provide valuable policy recommendations which leverage these insights.

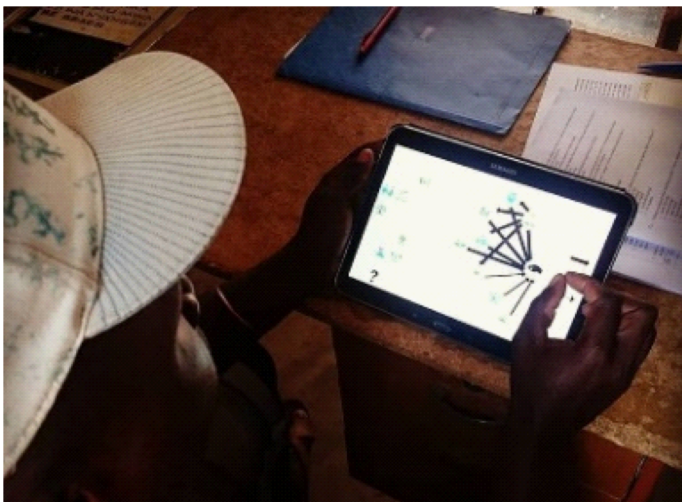


Image 1: A participant using the M-tool app during a field study.

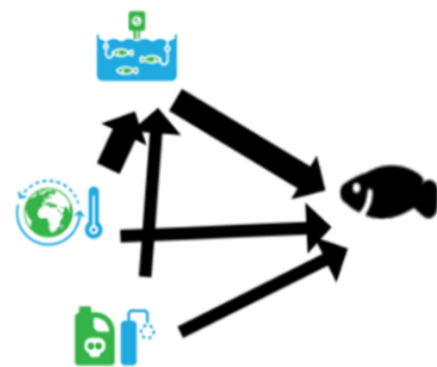


Figure 2: A mental model from a participant which shows how (from top to bottom) fishing in breeding grounds, climate change and destructive fishing gear affect the fish stock.

Reference:

van den Broek, K. L., Luomba, J., van den Broek, J., & Fischer, H. (2023). Content and complexity of stakeholders' mental models of socio-ecological systems. *Journal of Environmental Psychology*, [101906]. <https://doi.org/10.1016/j.jenvp.2022.101906>