
A CALL FOR COLLABORATION

from Stakeholders in the Lake Malawi Basin



Improving the fish value chain in Malawi for increased food security, better livelihoods, and conservation of fishery resources



MICHIGAN STATE
UNIVERSITY



Malawi's globally unique fish provide more than 60% of its citizens' animal protein and about 4% of national GDP. About 60,000 people are directly involved in fishing with an additional 500,000 involved in fish related activities; women play a large role in these activities. Fish is a food source vital to a Low Income Food Deficit Country, i.e., countries with the lowest incomes and greatest need for nutritional improvement, such as Malawi.

But the country's fishery and associated industries are undergoing significant changes. Understanding, anticipating and managing those changes is crucial to helping the nation better feed its people and increase their incomes.

It's also important for preserving the biodiversity of hundreds of kinds of fish found nowhere else in the world.

Addressing these changes require a collaborative effort by diverse funders, researchers, government agencies, and fishers, traders, and processors. Our organizations are uniquely suited to aid in such an effort:

- **Lilongwe University of Agriculture and Natural Resources** – Designated Center of Excellence by the World Bank; Secretariat for the Alliance for African Partnership with Michigan State University
- **Michigan State University** – Advanced research institution with a long history of projects in Africa, special programme Alliance for African Partnership, and world class experts in inland fisheries, African studies, and food security
- **Food and Agriculture Organization of the United Nations** – Internationally recognized center of excellence on development with extensive and ongoing projects in Africa and in Malawi in particular

But we need help. This is our call for collaboration!

The Big Picture

Meetings of key stakeholders, including fishers, fish workers, community leaders, government resource officers, fishery academics, together with representatives from the development assistance community, and others identified strategic interventions that could improve the value of fish in Malawi while conserving the country's rich aquatic biodiversity. These interventions will help implement the UN Sustainable Development Goals. It is now time to begin discussions on how to fund and support the implementation of these interventions.

STAKEHOLDER PROJECT IDEAS

Strategies → Outcomes → Impacts

Enhancing the nutritional and economic value of fish and fish products through improved traceability, food quality, and food safety

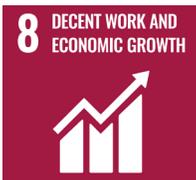
Improving marketing and trade infrastructure and information for increased value and nutrition

Gender equity and empowerment

Development of aquaculture

Policy coherence and governance

UN Sustainable Development Goals



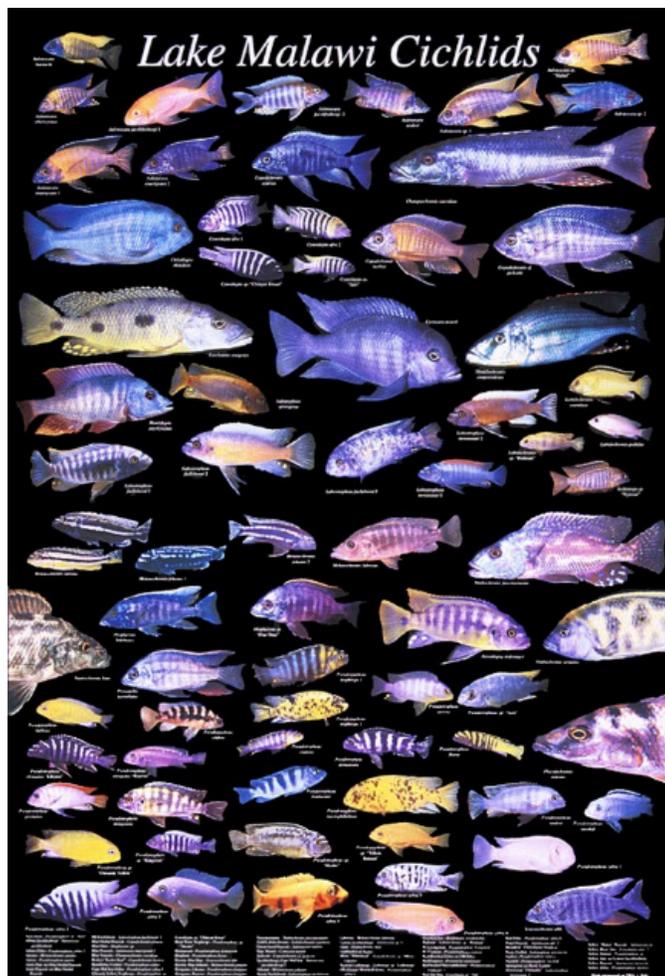
Increased food security

Improved livelihoods

Conservation of globally significant biodiversity



Fresh Chambo at the Lilongwe Fish Market



Lake Malawi is home to globally significant biodiversity found nowhere else in the world.

Consider the Chambo as an example of the complexity of improving Malawi's fish production. Chambo is a group of tilapia prized by restaurants for its taste and by fishers for the price it fetches. But this much-in-demand, high-value fish is in steep decline in Lake Malawi, the nation's fish production center. Chambo contributed about 50% of total fish production from Lake Malawi in the 1980s; the fishery accounts for about 7% of production today. This constitutes a loss of over 16,000 tonnes in yearly catches, or about USD \$8 million.

Those diners and producers welcome a solution to that dilemma. But solving it also means investing in a fish that low-income people most in need of food cannot afford.

Meanwhile, smaller species such as Usipa (*Engraulicypris sardella*), Utaka (*Copadichromis* spp), and Ndunduma (*Diplotaxodon limnothrissa*) that are much higher in micronutrients are on the upswing. They have the potential to better feed people. But the relatively low price they fetch makes them less desirable to capture for sale. Furthermore, during the rainy season post-harvest loss can be up to 40-60% due to spoilage.

Managing such diverse resources is crucial to the health and livelihood of Malawians.

But there are concrete steps we can take to improve livelihoods and sustainable development, no matter the species. These steps were identified during a stakeholders' workshop in Mangochi, 9 & 10 October 2018. Now they await your support.

The costs of marketing are high and the outcomes unpredictable. A female fish wholesaler at the market in Lilongwe explained that she had travelled overnight from the lakeside to sell her usipa; the costs of transport are high and she pays a separate fee to transport her fish, which is at risk of being stolen along the way. If she is unable to sell all her fish, she must pay for storage and a place to sleep overnight. Depending on these factors and unpredictable price and demand fluctuations, she is often uncertain whether she will make a profit or loss on any given trip to the market. Access to storage, rest facilities, and market information can reduce costs and risks to fish traders, improving the incomes they take home to their families.

Clean and accessible market space is severely lacking. While at the Lilongwe fish market one morning, it began to rain, flooding a section of the already-limited space where dried fish is displayed. Wholesalers explained that control over market plots is determined by the city council; because space is limited, plot owners extract high rent from wholesalers wishing to sell at the market, cutting into earnings. Creating a clean, dry, and accessible space for marketing fish can improve food safety and traders' livelihoods simultaneously.



Usipa being sun-dried and smoked at a fish landing site on Lake Malawi. Seasonal rains can completely ruin this processing and smoke can adversely impact health of fish workers.





Small floating cage of Chambo in Lake Malawi. Aquaculture is developing slowly in Malawi, but there is potential to supply the market with species that have declined in the wild, such as Chambo.



Solar drying houses can increase value of fish and reduce post-harvest loss.

Aquaculture at present is a developing industry, but is expected to grow to meet increased demands for food and livelihood. The decline in the wild populations of Chambo could present an opportunity for aquaculture of this species. Chambo has wide appeal throughout Malawi and similar species of tilapia have been exported around Africa and to Europe. Representatives from the Export Development Fund in Malawi recommended development of Chambo aquaculture for export; they further recommended forming aquaculture farmer associations to assist with development of the sector.



Rain soaked fish market in Lilongwe.

What the Stakeholders Need

Our Theory of Change integrates information, institutional, and technical interventions targeting real-world challenges on the ground to achieve the UN Sustainable Development Goals. The following five strategic interventions involve a variety of strategies that will lead to improved livelihoods, increased food security and the conservation of globally significant biodiversity in Malawi.

1. Improving Marketing and Trade Infrastructure and Information for Increased Value and Nutrition

There are a variety of fish products in the value chain from fresh fish, to boiled and smoked; however, infrastructure is often lacking to take full advantage of these products. Post-harvest losses can be as high as 40% around the lake. Additionally fish traders face significant fluctuation in prices and location of buyers. This increases financial risk to fishers and fish traders, many of whom may operate at loss on any given day.

What happens to the fish after it is caught affects its nutritional value, quality, and economic value. Most

fish trade in Malawi is informal, meaning that little information exists about the origins and destination of the fish harvested from the lake.

- Information on fish prices and markets is essential for sustainable value chains, but is often lacking around the lake
- Processing technique affects product quality and thus influence price and nutritional value of fish
- Spoiled fish are wasted, or sometimes thrown back into the lake or used as animal feed

Interventions

Information, Modelling, and Communication

Market study on fish and fish products to improve pricing and information

Market infrastructure assessment

Institutional Strengthening, Governance, and Policy

Integration of traders and fisher associations into a national level organization

Forum to establish priorities, standards and best practices

Technical Improvements

Real-time communication system on market prices

Pilot scale projects using private/public partnerships to implement interventions

*Sustainable
Development Goal*

**1 NO
POVERTY**



By 2030, eradicate extreme poverty for all people everywhere
By 2030, ensure that all men and women have equal rights to economic resources as well as access to basic services, ownership of property, and appropriate new technology and financial services

2. Gender Equity and Empowerment



Supporting female fish workers' livelihoods is now a top international priority because it can improve household well-being and food security through women's economic empowerment.

- About 500,000 people work in the fishery sector in Malawi
- Women play an important role in the sector, primarily in harvest and post-harvest activities, but this role is under-appreciated by the international community

Interventions

Information, Modelling, and Communication

Awareness and communication program on the nutritional benefits of fish properly handled and processed

Institutional Strengthening, Governance, and Policy

Organization of women into trading and savings groups to improve access to credit and financing

Technical Improvements

Facilitate women's participation in training and capacity building activities on improving post-harvest methods and innovating fish products

*Sustainable
Development Goal*

5 GENDER
EQUALITY



Ensure women's full and effective participation at all levels of decision making in political, economic and public life

Enhance use of enabling technology, in particular information and communications technology to promote the empowerment of women

3. Enhance Nutritional and Economic Value of Fish through Improved Traceability, Food Quality, and Food Safety

Fish from Lake Malawi are nutrient-rich, affordable, animal-source protein—more information is needed on micronutrient content and how quality changes along the value chain.

- Poor processing and market infrastructure threaten fish quality and safety and cause economic loss to processors and traders
- When traders are unable to sell all their fish, the lack of storage facilities negatively affects fish quality, safety, and traders' economic viability



Interventions

Sustainable Development Goal

Information, Modelling, and Communication

Nutritional studies on small and large fish species fished and farmed in Malawi

Fish quality assessments along the value chain

Institutional Strengthening, Governance, and Policy

Regular monitoring of landing sites to ensure standards and quality are maintained

Technical Improvements

Develop infrastructure to ensure fish quality and reduce post-harvest loss, such as cost-effective storage and processing facilities

2 ZERO HUNGER



4. Aquaculture Development



Aquaculture is expanding in many parts of the world, but slowly in Africa. Undoubtedly aquaculture will be necessary in the future to provide Malawi's growing human population with quality and affordable food.

- There are current opportunities for aquaculture in Malawi to provide Chambo and other high value species that have declined in capture fisheries. Supportive industries such as local fish feed manufacturing could be further developed to improve the cost effectiveness of Malawi aquaculture

Interventions

*Sustainable
Development Goals*

Information, Modelling, and Communication

Economic analyses and modelling of aquaculture production linked with assessment and value of capture fishery resource

Environmental study on the carrying capacity and zoning of Lake Malawi for cage culture of Chambo

15 LIFE ON LAND



Institutional Strengthening, Governance, and Policy

Organization of aquaculturists into fish farmer associations for increased political power and better access to resources and information

12 RESPONSIBLE CONSUMPTION AND PRODUCTION



Technical Improvements

Development of local fish feed manufacturing facilities

5. Policy Coherence and Governance

Policy coherence and good governance will be necessary to improve livelihoods and food security through enhanced coordination across many sectors, such as agriculture, environment, energy, water, sanitation, hygiene, health, education, economics and social development.

- Malawi has a stable government and internationally recognized fisheries and aquaculture expertise
- Interventions in governance would link marketing and trade with fish production, create coherency across multiple centers of trade, and connect government, private industry, and academic and civil society organizations.



Interventions

Sustainable Development Goals

Information, Modelling, and Communication

Develop an accessible information platform that includes economic and market studies for public-private-partnerships and other value chain information

Institutional Strengthening, Governance, and Policy

Establishment of a forum for communication and coordination among ministries, academia, and non-governmental organizations to facilitate policy coherence

Technical Improvements

Improved monitoring and data collection systems on the state of resources entering the value chain to inform policies on harvesting





Next Steps

It is recognized that different donor organizations will have different priorities in regards to the above strategic interventions. The purpose of this Call for Collaboration is to start a dialogue with interested agencies to develop a full proposal in line with their mandates and the wishes of the stakeholders that have contributed ideas herein.

To continue the dialogue, please contact:

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