FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

FEED THE FUTURE INNOVATION LAB FOR FISH

Our mission is to alleviate poverty and improve nutrition in vulnerable populations through the reliable and inclusive provision of fish, a nutrient-rich animal source food.

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IMPACT PATHWAYS

Improve Productivity

- Identify and develop scalable technologies and practices that will sustainably increase fish production
- Prioritize natural resource conservation and the needs of fishers and producers
- Inform policies that increase the productivity and profitability of aquaculture and fisheries sectors in developing countries

Reduce and Mitigate Risk

- Identify and develop scalable technologies and practices to reduce and mitigate risks to fish production systems
- Identify best practices for effective food safety and food and nutrition security to prevent industry losses from fish contamination and diseases
- Be adapted for small-, medium-, and large-scale aquaculture producers

Improve Human Outcomes

- Generate actionable evidence on how fish production systems can equitably improve economic opportunity and nutrition among vulnerable households
- Prioritize impacts for youth and women
- Foster more equitable access to high-quality fish, business ownership, and market access

CROSS-CUTTING THEMES

- All themes are incorporated into each funded research project to enhance the development impact of our research.
- Experts in each theme are part of our team and review all projects and awards to ensure the theme's inclusion.
- Projects include specific indicators for each theme.

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SIMPLIFIED THEORY OF CHANGE

Goals

- Improved productivity, resilience, market access
- Food/nutrition security and livelihoods promoted
- Responsible management of aquatic resources

Impact Pathways

Improve productivity	Reduce & mitigate risks	Improve human outcomes

Approaches

Research	Capacity-building	Innovation, Adoption

Cross-cutting Themes

- Gender & Youth
- Nutrition
- Resilience
- Capacity

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TARGET COUNTRIES

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24 FUNDED PROJECTS

- The Feed the Future Innovation Lab for Fish (Fish Innovation Lab) began in September 2018 and has completed its third year. Its end date is September 2023.
- In 2019-2020, the Fish Innovation Lab launched and completed five one-year Quick Start activities. The Quick Start activities were implemented in Nigeria, Kenya, Bangladesh, and Zambia.
- In 2020-2023, the Fish Innovation Lab launched 13 competitively awarded 2-3 year activities, which are being implemented in Nigeria, Kenya, Zambia, Bangladesh, and Cambodia.
- In 2021-2023, the Fish Innovation Lab launched five 1-2 year projects in Bangladesh, Ghana, and Zambia.
- In 2022, a new 18-month activity, funded through a USAID buy-in award, focuses on work in Peru, the Philippines, Madagascar, and the Pacific Islands region.

CURRENT PROJECTS

13 COMPETITIVELY FUNDED PROJECTS

- 2020 was a transitional year for the Fish Innovation Lab as it completed its five one-year research and capacity-building activities (Quick Start activities). The Quick Start activities were implemented in Nigeria, Kenya, Bangladesh, and Zambia.
- The Fish Innovation Lab launched 13 competitively awarded activities, which are being implemented in Nigeria, Kenya, Zambia, Bangladesh, and Cambodia.
- Working with MSU Office of Sponsored Projects, >30 subawards were issued in 2020 to launch new projects.

BANGLADESH

- Cryogenic Sperm Banking of Indian Major Carps and Exotic Carps for Commercial Seed Production and Brood Banking
- Harnessing Machine Learning to Estimate Aquaculture Production and Value Chain Performance in Bangladesh
- Identifying Major Sources of Fecal Pathogens in Bangladeshi Aquaculture Value Chains and the Most Cost-Effective Risk Reduction Strategies

M. Gulam Hussain

CAMBODIA

- Development of Bighead Catfish Culture for Sustainable Aquaculture in Cambodia
- Increasing Sustainability of Fisheries and Aquaculture for Resilience of Cambodian Communities

CE SAIN Cambodia

KENYA

- Achieving Coral Reef Fishery Sustainability in East African Biodiversity and Climate Refugia Centers

- Samaki Salama: Securing Small-Scale Fisheries in Kenya for Healthy Nutrition and Ecosystems

Tim McClanahan/WCS

ZAMBIA

- FishFirst! Zambia: Research for Development and Scaling Staple-Fish Products for Enhanced Nutrition in the First 1,000 Days of Life

Kathleen Ragsdale/MSU

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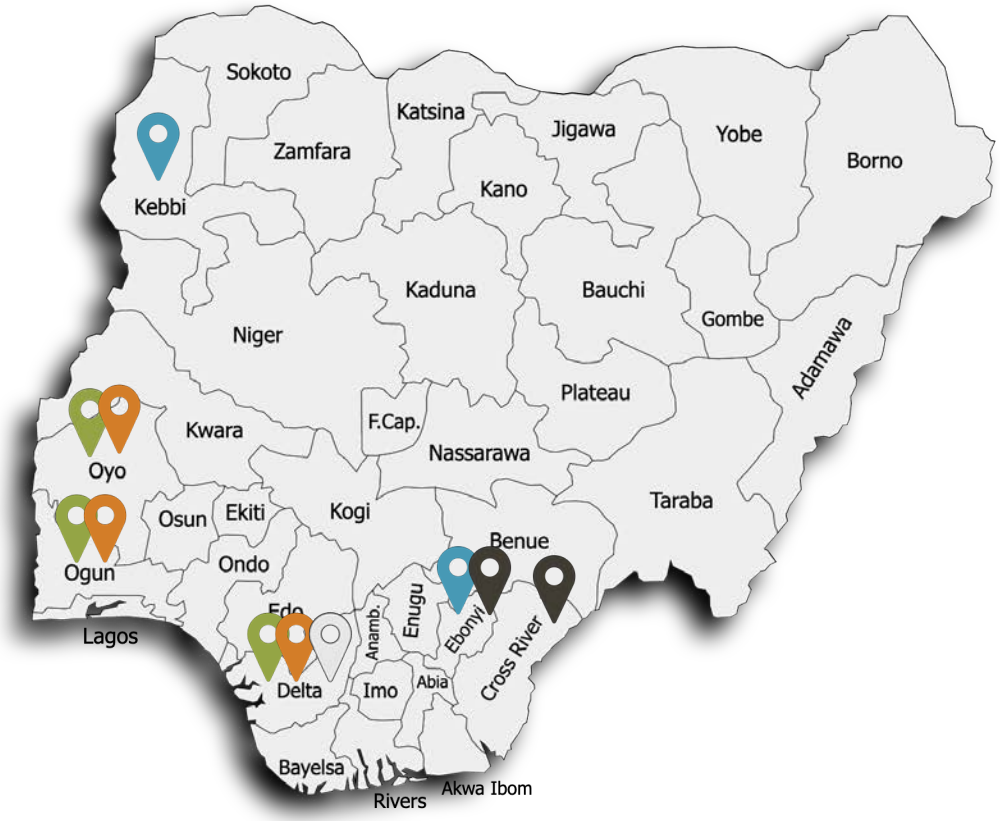
NIGERIA

- Aquaculture Diversification
- Biosecurity
- Lean Management
- Black Soldier Fly
- Nourishing Nations



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AQUACULTURE DIVERSIFICATION IN RURAL COMMUNITIES

- Develop suitable integrated rice-fish production technology through participatory research actions
- Understand convenient market access approaches and nutrition contributions of rice-fish farming products
- Develop capacity and enhance co-learning among stakeholders (academics, farmers, extension workers, and other development partners)

Emmanuel Ajani/University of Ibadan

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IMPROVING BIOSECURITY IN CATFISH AND TILAPIA PRODUCTION

- Understand the epidemiology and health economics of catfish and tilapia aquaculture
- Understand the health status of catfish and tilapia in a regional model by employing presumptive field and laboratory diagnostics
- Identify pathogens of economic significance circulating in Nigerian catfish and tilapia aquaculture using whole genome sequencing

Sunil Siriwardena/WorldFish

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APPLYING LEAN MANAGEMENT IN AQUACULTURE PRODUCTION

- Improve operational efficiency, reduce post-harvest losses, improve waste management, and decrease the cost of production of catfish and tilapia in Nigerian aquaculture through application of Lean Production Systems

Sunil Siriwardena/WorldFish

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INTEGRATED INSECT-TO-FISH (ITF) FARMING SYSTEMS

- Co-optimize integrated ITF farming system infrastructure
- Assess the feed safety of black solider fly (BSF) reared on available organic waste streams
- Understand the social and institutional context of small-scale fish farming
- Construct a relational map of optimal profitability points for BSF and catfish production
- Engage women, youth, and academic groups to communicate project results

Joe Steensma/WUSTL

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NOURISHING NATIONS

- Develop cost-per-nutrient guides for select processed fish products
- Build capacity among women and youth fish processors to produce high-quality, safe, and nutritious processed fish products for local consumption
- Educate women and youth fish processors about the benefit of fish in human diets and develop a low-literacy tool to help them better market their product

Brianna Bradley/WorldFish.

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NEW COMMISSIONED PROJECTS

- Strategies for Inclusive Aquaculture Value Chain in Bangladesh: Analysis of Market Access, Trade and Consumption Pattern
- Advancing Aquaculture Systems Productivity Through Carp Genetic Improvement (Bangladesh)
- Development and Investigation of the Delivery Mode of a Multivalent Bacterial Fish Vaccine in Zambia
- Micronutrient Impact of Oysters in the Diet of Women Shellfishers (Ghana)
- Population Ecology and Market Potential of the Introduced Crayfish in the Kafue Floodplain and Lake Kariba: Zambia

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