

FISH INNOVATION LAB TRAINEES IDENTIFY AREAS OF WASTE AND MAKE IMPROVEMENTS AT THE FARM LEVEL

By Oyediran Olusegun Oyebola

Sunday Isomo, chair of the Ogun State chapter of the Catfish Farmers Association of Nigeria, produces about four tons of catfish per pond in a typical year. However, in recent years, this is only enough to recoup his costs from feed, water, and other inputs, leaving little profit. When Isomo heard about an opportunity to increase the productivity of his catfish farm through training with the Feed the Future Innovation Lab for Fish, he leapt at the opportunity.

By applying Lean training skills, Isomo improved workplace organization on his farm, minimized waste associated with feeding fish by 50%, and reduced the cost of pumping water by 70%, which abolished all-day water pumping. These improvements have significantly contributed to enhanced business revenue and, in turn, have positively impacted his family.



In this group picture, Isomo (first from right) did field work with attendants as Elizabeth Akuwa monitored (first from left). (Photo submitted by Elizabeth Akuwa)

First developed by Toyota Manufacturing to prevent loss, the “Lean Production Systems” approach is being used by the Fish Innovation Lab project on Applying Lean Management in Aquaculture Production to translate lessons learned from the car production sector to the aquaculture value chain. The Lean approach aims to reduce waste starting from the aquaculture pond all the way to the marketplace.

The project started with a series of training exercises from September 2020 to July 2021 where 40 fish farmers and processors were trained on the concept of Lean waste reduction to become Lean Subject Matter Experts (LSMEs). The LSMEs then trained 414 farmers, comprising 174 from Ogun State and 240 from Delta State, with the goal of improving aquaculture operations in Nigeria.

The story does not end there.

The trained LSMEs outperformed expectations, resulting in the training of over 400 farmers in one week. They started helping trainees identify areas of waste on fish farms and carried out improvement activities to resolve on-farm wastes in operational inefficiency, post-harvest losses, waste management, and high cost of production. The Lean project deployed training tools to resolve issues on how to eliminate what does not add value, how to deliver the best possible product, and how to remove as many production barriers as possible to enable low cost, high quality, fast delivery, and environmentally friendly production procedures in fish farming and processing.

Thanks to the enthusiasm and personal success of Isomo in applying the Lean approach, he had one of the largest attendance (13) per cluster at the Ogun State Lean trainings in September 2021.

PROJECT TEAM

Lead PI and Nigeria PI	Rohana Subasinghe, PhD WorldFish
Nigeria Co-PI	Sunil Siriwardena, PhD WorldFish
U.S. PI	Julius Nukpezah, PhD Mississippi State University
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Also in Ogun State, Onaduja Atinuke was one of the early enthusiasts of the Lean project. She applied the Lean concept on her farm, and the knowledge imparted by the Lean project translated to reduced cost of fuel by using water pumping machines.

She was not the only one who experienced improvements in on-farm costs and improved efficiency.

“The Lean training helped me improve my water quality management, and this has increased productivity in my catfish hatchery since mortality has been reduced to the minimum,” said Abel Onaiwwe, the coordinator and cooperative head of the Delta LSME team.

Another success came from Lagos Ekwekere, a 60-year-old LSME from Delta State.

“My fortune was positively impacted by the LEAN training,” Ekwekere said. “Thanks to the Lean training tool, I found the root cause of a problem I had been facing on my fish farm, and the training helped me to identify sources of mortality among the young fish fry on my farm. This has increased my fingerling production, and the last spawning exercise generated over 500,000 catfish fingerlings. I have never gotten this many at once until now!”

The Lean training is providing exciting experiences and successes on farms. This has motivated the LSMEs to further spread the knowledge of the Lean concept to other fish farmers in their communities, causing a ripple effect for improved aquaculture operations in Nigeria.

ABOUT THE FISH INNOVATION LAB

The Fish Innovation Lab supports the United States Agency for International Development’s agricultural research and capacity building work under Feed the Future, the U.S. Government’s global hunger and food security initiative. Mississippi State University is the program’s management entity. The University of Rhode Island, Texas State University, Washington University in St. Louis, and RTI International serve as management partners.

www.feedthefuture.gov
www.fishinnovationlab.msstate.edu