

IMPROVING THE EFFICIENCY OF AQUACULTURE FARMS IN NIGERIA

by Oyediran Olusegun Oyebola and Terri Lawrence

Onorame Otomiewo is head of the Ivory Fish Farmers Cluster in Delta State, Nigeria. She has been a fish farmer for most of her adult life. As part of her aquaculture enterprise, her routine activities include feeding her fish twice daily, checking water quality regularly, repairing the pond when required, and undertaking other routine production activities. Yet Otomiewo has struggled with obtaining enough resources to pay for fish feed, maintaining water quality, and making a profit from fish farming.

Otomiewo was one of 40 fish-farming cluster heads who attended a series of meetings organized by WorldFish and the Feed the Future Innovation Lab for Fish (Fish Innovation Lab) in September 2020 in Delta and Ogun states. The meetings introduced fish farmers to a Fish Innovation Lab project focused on improving efficiency in Nigeria's aquaculture sector through lean production systems. Through this lean approach, the project team seeks to improve operational efficiency, reduce postharvest losses, improve waste management, and decrease production costs of catfish and tilapia in Nigerian aquaculture.

Otomiewo's cluster, or farmer group, was selected for a subsequent awareness meeting and site visit. By the end of the site visit, Otomiewo was encouraged to know that lean production training could help improve her cluster's aquaculture practice. The lean production approach will help her and her group be more efficient and profitable by effectively utilizing their resources, such as optimal feeding and feed management for the best growth performance. Otomiewo indicated she was comforted to learn that these changes in practice could be sustainable and would continue to improve production for years to come.

Otomiewo said, "We shared our operational challenges during the meeting and we eagerly look forward to seeing the project executed. We have high hopes that the innovations and technical knowledge received from the project will increase our livelihood incomes."

Abel Onavwie, a pastor and head of the Treasure Fish Farm Multipurpose Cooperative Society in Delta State, also attended one of the three-day informational meetings on lean management technology. He noted the anticipated benefits of this approach for the members of his society.

"I strongly believe this will better members' livelihood. The information shared at the awareness meeting will bring about positive impacts in our fish farming operations. We are anxious to participate fully in the project and ensure its sustenance," said Onavwie.



Oyediran Olusegun Oyebola interacts with the Ivory Fish Farmers Cluster in Delta State during the awareness meeting. Oyediran Oyebola/University of Ibadan

PROJECT TEAM

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One of the participants in the Ogun State meeting, Onaduja Atinuke Olubola is affiliated with the Ikangba/Agoro Fish Farmers Cluster. She expressed her excitement with the training stating, “I must say that the lean aquaculture management program is mind blowing. Its awareness program really exposed me to new ideas, experiences, and people that will help in maximizing my profit through waste reduction.”

Otomiewo, Onavwie, and Olubola are just a few of the fish farmers expected to benefit from the Fish Innovation Lab’s lean production project. The project will initially train about 200 fish farmers and processors to apply lean management principles in their production activities. The experience gained from these trainings will enable the project to explore opportunities and avenues for scaling up country-wide application of lean management principles in aquaculture.

Terri Lawrence, a consultant leading the development of a lean production curriculum in Nigeria, described the expected benefits of introducing this approach to Nigerian aquaculture: “By focusing on removing wastes, optimizing efficiency, and growing profits with less work, the Nigerian aquaculture sector would improve its profitability, affordability, and availability of fish to its growing population. Ultimately, the per capita consumption of fish and fish products would increase.”

The improvements in the aquaculture sector are also expected to help improve food security, nutrition, and livelihoods for poor and vulnerable groups in the country.

“The traditionally poor Nigerian fish-farming communities will have improved health and wealth due to the application of lean technology in their production activities. The overall increased consumption of fish in Nigeria will reduce hunger and malnutrition, boost livelihoods, and raise nutrition for its citizens,” said Oyediran Olusegun Oyebola, an academic staff member in the Department of Aquaculture and Fisheries Management at the University of Ibadan in Nigeria and consultant for the project.

After a series of virtual and field-level training exercises, the lean production team will begin working with the fish-farmer clusters in Delta and Ogun states to address their specific challenges.

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