LEAN SUBJECT MATTER EXPERTS TRAIN NIGERIAN FISH FARMERS TO IMPROVE AQUACULTURE PRODUCTIVITY

By Oyediran Olusegun Oyebola

For Nigerian fish farmers like Gospel Nwodo, efficient resource use can make the difference between a profitable year or a loss. Aquaculture production requires a variety of inputs and resources, from feed and supplies to space, time, and labor. Inefficient use of these resources and wastage along the value chain can lead to sub-optimal production, increased production costs and reduced profits.

These challenges are common in many production systems, which is why the Feed the Future Innovation Lab for Fish is applying lessons learned from a potentially unlikely source: the car production sector. The Applying Lean Management in Aquaculture Production project is using the "Lean Production Systems" approach first developed by Toyota Manufacturing to prevent loss along the aquaculture value chain and economize the process of raising fish and bringing them to market using Lean approaches.

Here is a nearly all female cluster trained by Preye Ofunama (Lean Subject Matter Expert in Delta State), Oyediran Olusegun Oyebola (Consultant), and Abel Onaivwe (Delta State Coordinator and Lean Subject Matter Expert) in attendance. (Photo submitted by Oyediran Oyebola, University of Ibadan)

The "Improving Efficiency in the Nigerian Aquaculture Sector by Employing Lean Production Systems" project team is contributing to enhanced food security and increased economic returns through a train-the-trainers approach.

In a series of training exercises from September 2020 to July 2021, 40 fish farmers and processors were trained on the concept of Lean waste reduction to become Lean Subject Matter Experts (LSME). The LSMEs then trained other members of their farmer groups with the goal of improving aquaculture operations in Nigeria.

Nwodo attended Lean Management training provided by LSME Ekwekere Lagos. "This training increased my level of knowledge on how to manage waste and increase production," said Nwodo. "This information will help eliminate poverty for people in aquaculture. The training came at the right time for me to know how to reduce waste and maximize profit."

A total of 414 farmers, comprising 174 from Ogun State and 240 from Delta State, were enrolled for additional training sessions by the LSMEs that were conducted between September 18-25, 2021.

Each of the LSMEs trained a cluster of five to 22 farmers on application of Lean management principles in fish farming. The training programs conducted by the LSMEs enhanced youth and women's participation, especially in Delta State. While only about 15% of the trained LSMEs from Delta State were women, the LSMEs were able to mobilize more women through the farmer cluster trainings (35-85% women per training).

PROJECT TEAM

Lead PI and Nigeria PI	Rohana Subasinghe, PhD WorldFish
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Kolawole Kudirat attended one of the farmer cluster trainings by the LSMEs and noted how she learned that she and her colleagues had not been maximizing efficiency in their fish farming operation, but thanks to the training, she now knows how to remedy this.

"This training was excellent," she said. "I now know how to implement these lessons to improve our farm."

The farmer cluster trainings improved gender and youth involvement in aquaculture since women and youth are often alienated from leadership roles and would not have had access to information on the innovative Lean approach due to gender- and age-biased leadership and resource allocation structures in the cultural settings where these trainings took place.

David Agwadu, 26 years old, participated in a Lean training in Ekpan, Delta State, led by LSME Okotete Bravoh.

"The acquired Lean knowledge will save up to 30% [of my] operational costs," Agwadu said. "The training gave me the needed knowledge. If you don't have knowledge, you cannot be profitable."

The Lean project concept has been effective in minimizing waste and improving resource use efficiency along the value chain, resulting in reduced cost of production and increased profits, which will improve the livelihood of fish farmers in Nigeria. The trainings have helped encourage women and youth involvement in fish farming as well as provided practical tools for fish farmers to become more profitable.

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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
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