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

INCREASING KNOWLEDGE OF FISHERIES STATUS THROUGH COMMUNITY STOCK ASSESSMENT TRAINING

By Remy Oddenyo, Jesse Kosgei, and Tim McClanahan

"Participating in the training to estimate fish stock biomass helped me see the clear differences in fish biodiversity and biomass in different fisheries management zones," said Ali Kiruwa, a fisherman from the Kibuyuni fishing community in Shimoni, Kenya.

The training was a part of an ongoing educational program supported by the Feed the Future Innovation Lab for Fish funded by USAID. The activity, which is focused on helping to achieve coral reef fishery sustainability in Kenya, intends to evaluate the results gathered from the training to determine aspects of the fisheries' assessments that can be done effectively by local communities.

Here, fishers are doing a biomass stock assessment training at Wasini Island, Kenya. (Photo by Remy Oddenyo, WCS)

The training exercise changed the perceptions of the trainees on their fisheries' stock status and provided a tool to evaluate the fisheries' resources. Additionally, the benefits of no-take areas, defined as areas closed to fishing, were reinforced by collecting their own stock status data.

According to Kiruwa, there is greater diversity and biomass of fish in the no-take zone in comparison to community closures. "This is attributed to enforcement by the Kenya Wildlife Service in the no-take zone, which is more effective," Kiruwa said.

The community members started conversations about how to improve their locally managed marine areas, which are called *tengefus*. The training provided trainees with materials including fish identification sheets, writing slates, transect lines, and spreadsheets that calculate the stock level and status of the studied fish. Community members were also instructed to take photos of their slates after data collection, and then taught how to enter the data on excel sheets using their cell phones.

Developing their underwater visual census skills will now allow fisheries stakeholders to periodically monitor local fisheries resources. Identifying fish at the family level and overall fish taxonomy was also part of the training.

"Before the training, I considered juveniles and adults to be different species due to different coloration, but I came to learn that these were the same species at different stages of growth," said Fatma Shee, from Wasini Island in Shimoni. "This was useful information considering the juveniles and adults are found at different places, which could inform management."

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While the training was specific to stock assessment, the general knowledge of fish and fisheries was increased by the training.

To date, the activity has shown that communities are better able to measure fish catches in comparison to national government programs thanks to the community members being continuously present at the landing sites. This allows for greater familiarity with the fishers and their behaviors, and they can take measurements on more fishing days.

The stock assessment training, publicly available in the local Swahili language, is the second fisheries activity that is underway and in the process of being evaluated for potential adoption by the communities.

Trained community members will now use field equipment left with them, including slates and transect lines as well as the data entry template to assess fish stocks as part of their monitoring activities. Data collected from these assessments are critical in assessing the status of the stocks and will be useful in making management recommendations moving forward.

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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