

FISHERS IN CAMBODIA USE CITIZEN SCIENCE PROGRAM TO IMPROVE THEIR FISHERY

By Wes Neal

The road weaves along the Kampong Som River, heading north from Preah Angkeo. The recent rains had filled the large potholes in the clay road, which splash their orange-tinted contents with each passing motorcycle.

Tony Yon, a member of the *FishforFuture* (F^3) team with the Feed the Future Innovation Lab for Fish, is heading to a remote fishing village in the foothills of the Cardamom Mountains in Cambodia. Small-scale fisheries – like the one Yon is going to – are vital for many rural communities.

Regrettably, small artisanal fisheries are frequently left unmanaged and subject to overfishing. Government fisheries agencies often are limited in both personnel and funding and must, therefore, focus their limited capacity on resources of broader importance.

Yon, who is also a graduate student at the Royal University of Phnom Penh, is traveling to visit with the local artisanal fishers in Bak Angrut, the northernmost village along the Sre Ambel watershed. The fishers in this village are participating in a special program designed by the F^3 team that is helping to improve the management and resilience of the Sre Ambel River's fishing resources.

With the support of Cambodia's Fisheries Administration, the local villages along the Sre Ambel River and tributaries have united to provide community governance of the Sre Ambel River system as a "community fishery." This arrangement places management authority in the hands of those who have a vested interest in the resource.

However, a lack of reliable data on the fishery makes it difficult for the communities to govern this shared resource. Managing fish populations requires data on which species are being exploited, size at capture, fishing location, harvest, and fishing effort. Without this necessary information, appropriate management actions cannot be determined.

To overcome this barrier, F^3 has developed a citizen science program comprised of local artisanal fishers. The program initiated in early 2021; fishers were carefully selected, trained, and provided all necessary resources to collect data on their fishery. Each of the 15 participants receives a small, monthly financial incentive of \$50 for their effort to go along with the bigger incentive of a well-managed fishery.

It is Yon's job to collect the data from participants each month and enter it into an accessible database.

"It is very rewarding to see the fishers eagerly helping," Yon said. "We all want the same thing – a healthy fishery that provides reliable income and sustainable protein to the villages."



Tony Yon demonstrates how to record the GPS coordinates using the cameras to a group of citizen science participants. (From left: Sao Sien, Pech Naing, Lay Bunthern, Chhoeun Sreynuch (F), Tony Yon, and Long Sman) Photo by Som Sitha/Wildlife Conservation Society

PROJECT TEAM

Lead PI and U.S. PI	Sandra Correa, PhD Mississippi State University
Cambodia PI	Som Sitha, PhD Wildlife Conservation Society
Cambodia Co-PI	Simon Mahood, PhD Wildlife Conservation Society
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Yon's job is no small task. In the first six months, village fishers have collected data on at least 125 fish species and more than 26,000 harvested fish.

Mr. Pov Tunh is one of the village fishers participating in the citizen science program.

"My family depends on this river to provide food and income," Tunh said. "If I can help improve it for my children and grandchildren, I am happy to do my part."

Analysis of the data will require greater training and more sophisticated tools. F³ is developing a web-based application called *iFISH* and accompanying training videos designed to provide the expertise and computational power required. The program will compile citizen science data into easy-to-understand fisheries analyses.

Dr. Sandra Correa, F³ Leader at Mississippi State University, explained, "The goal of this collaboration is to characterize the current state of the fishery, identify population trends in important species, and allow for long-term monitoring of the resource."

Ultimately, this approach that combines citizen science, community fisheries management, and the *iFISH* application will be scalable to other rivers.

"We want to empower community fisheries management councils in artisanal fisheries all over the world to better assess trends in their fishery and make more informed management decisions," Correa said. "The ultimate goal is to improve food security and ecological sustainability in these small but important rivers."

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