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BUILDING CAPACITY: GRADUATE STUDENT IN CAMBODIA WORKING ON THE FIRST NUTRITIONAL DATABASE FOR FISH

By Thu Dinh and Chelsie Dahlgren

Early in the morning, Chakriya Chum is heading to Sre Ambel River for one of her fishing trips, not for fun but in her effort to collect commonly consumed fish species to build the first of its kind, a nutritional database for fish. This database can be used for years to come in Cambodia, and the study, funded by the Feed the Future Innovation Lab for Fish, is part of a larger project to improve resilience and capacity of the general fishery communities in Cambodia.

Front row from left to right is Phannara and Phun, and in the back row from left to right is Champapao, Chakriya Chum, and Sreyden, visiting fishermen along the Sre Ambel River to collect fish for nutrition analysis. (Photo by Sitha Som/WCS)

Catching, processing, and selling fish have been important sources of income for many men and women in Cambodia. However, an understanding of the aquatic environment of the Sre Ambel River is needed as there are severe fluctuations amongst the stock of fish. Unfortunately, this causes many problems for the economy, leading to food insecurity for the local fishermen around the river. Knowing fish composition will allow for more appropriate preservation and processing applications while retaining important nutrients.

The project Chum is a part of is led by principal investigator Sandra Correa and her team of U.S. co-investigators, Wes Neal, Peter Allen, Wes Schilling, and Thu Dinh at Mississippi State University, as well as Som Sitha, a Cambodian principal investigator and Wildlife Conservation Society Landscape Project Manager.

Chum, who is a master's student with the Royal University of Agriculture in Cambodia, has dedicated her education and time to the prevention of food insecurity. As she hikes, boats, and fishes on the Sre Ambel River, she studies the fishery ecosystem while facing challenges in travel and tedious sample collection procedures, from measuring to documenting fish characteristics. Ultimately, she hopes to combine the management of fishery ecosystems and food science to develop solutions for food insecurity and nutritional needs in Cambodia.

"This research will benefit Cambodia's improvement on health conditions and [fish] preservation techniques," Chum said.

Although fishery regulations have been established through Community Fisheries (CFi) Management, they do not regulate the wild fish population, hence the importance of this nutritional database. The database and observations of this study will fill the gaps and limitations of other fishery programs, and thereby provide additional knowledge for fishermen as well as Cambodian consumers. Knowledge of nutritional composition is critical to food-insecure populations, especially for maximizing efficiency, profitability, and fulfillment of dietary needs.

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
U.S. Co-PIs	Wesley Neal, PhD Mississippi State University
	Peter Allen, PhD Mississippi State University
	Thu Dinh, PhD Mississippi State University
	Wes Schilling, PhD Mississippi State University

Chum, working under Wes Schilling's and Thu Dinh's direction along with Som and Sreyden Sum, the project's livelihood specialist, is combining this research effort with teaching local fishermen methods of fish processing and preservation to reduce waste. This database will provide target species to improve human nutrition and allow depleted fish populations to recover.

The challenges of the project are outweighed by the benefits for those involved and the community.

"Knowledge and research transferred to the community will improve health, fish processing, and their livelihood," said Chum.

By completion of this project, the team will have conducted surveys and sensory evaluation, a research method to measure consumer acceptability of fish products, and an additional study to use natural preservatives to prolong fish shelf life. The information will be conveyed to the community to help with fish preservation before being brought ashore.

Chum hopes to become an expert in the nutritional composition of fish, although she also enjoyed "catching the fish as [she is] used to buying fish from the market."

Som also enjoyed "working with communities and being able to get on boats and fish." Both Chum and Som are becoming invaluable assets by increasing in country capacity and bringing knowledge on how to improve resilience within fishery communities in Cambodia.

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

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