

BIGHEAD CATFISH NUTRITION RESEARCH AND TRAINING BUILDS CAPACITY THROUGH INSTALLATION OF A FEED PELLETIZING MACHINE

By the Bighead Catfish team

The development of feed formulation for sustainable culture of bighead catfish in Cambodia requires improvement of human knowledge, capacity building, and a research facility. Through an activity funded by the Feed the Future Innovation Lab for Fish, the Center of Excellence on Sustainable Agricultural Intensification and Nutrition (CE SAIN) has collaborated with the Royal University of Agriculture (RUA) to install a small floating fish feed pelletizing machine at the wet lab within the Faculty of Fisheries and Aquaculture (FFA) to support nutrition research and training activities related to bighead catfish.

"One of CE SAIN's objectives is to support the capacity development of RUA through its Research and Resource Mobilization Program," said Lyda Hok, CE SAIN director and lead principal investigator for the Fish Innovation Lab activity. "This serves as an example of how CE SAIN mobilizes various resources to support research and teaching facilities at RUA."

The FFA has mobilized various resources to improve their teaching and research. Installing the feed extruder, grinder, and mixer at the wet lab increases the capacity of the faculty to design more nutrition research topics related to fish feed formulation. The current research on bighead catfish is a significant starting point and serves as a reference for other researchers and students to continue efforts with other fish species. This also provides an opportunity for FFA students to have more practical experience during their class activities.

"The fish feed pelletizing machine is really useful to our faculty, not only for fish nutrition research but also for hands-on student learning," said Vutha Hout, vice dean of the Faculty of Fisheries and Aquaculture.

Through the support from the Fish Innovation Lab, the activity communicated with a feed mill engineer in Bangladesh to provide technical training and to mentor the Cambodian team to properly operate the feed pelletizing machine. The trainer also supported FFA to develop a standard operation and maintenance manual. The participants including faculty, researchers, and students were assigned to have practical sessions during the training, which allowed them to learn how to produce



Student interns and the research team were trained by a feed mill engineer from Bangladesh on how to use the feed pelletizing machine. (Photo by Kimkhech Heng/CE SAIN)

ACTIVITY TEAM

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floating fish feed using the machine.

"I used to get fish feed in a bag at the store, but now, I can make it myself after joining this training," said Siney Noeun, an FFA undergraduate student. "I am happy to see this technology can be used to potentially make a cost-effective fish feed alternative."

Vithun Soth, a PhD scholar who works with the Fish Innovation Lab activity, said, "I am happy with the knowledge and skills I received from engaging with the training, and I commit to using these resources gained through this activity to complete my experiments for my dissertation. The research findings will benefit students, researchers, and farmers here in Cambodia."

The training also engaged participants from the Faculty of Agricultural Biosystems Engineering (FABE) who have knowledge in agricultural machinery, which built synergy between the faculties at RUA by supporting each other and sharing knowledge.

"Our faculty will certainly continue this collaboration with the Faculty of Agricultural Biosystems Engineering, which is mutually beneficial," Hout said. "This technology and the technical capacity that was fostered are the key elements for advancing nutrition research of bighead catfish and other fish species 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