

FISH VALUE CHAIN SURVEY INFORMS FUTURE INTERVENTIONS TO MITIGATE FOODBORNE PATHOGENS

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For Maisha Jesmin and Tahsina Tabassum, conducting surveys about the aquaculture value chain—including production, processing (i.e., cut-up table work), and trading—was a new experience, but the skills they learned are leading to more opportunities and knowledge in the field of research for development. The goal of their surveys was to identify pre-market and at-market practices and conditions associated with increased microbial contamination of fish to identify potential places for intervention in the future.

"During the survey part of a Feed the Future Innovation Lab for Fish activity, I got to visit a few places and interact with different people, which helped me improve my communication and qualitative data collection skills," said Jesmin, an enumerator for the activity in Dhaka.



Tahsina Tabassum interviewed a retail trader at one of the fish markets the team visited to get their survey data. (Photo by Md. Khorshed Alam)

Five enumerators total (four women and one man) from the Centre on Integrated Rural Development for Asia and the Pacific (CIRDAP) were hired and trained in survey collection methods as part of a Fish Innovation Lab research study led by Washington State University, estimating the prevalence of foodborne pathogens in two of the most consumed fresh fish in Bangladesh, tilapia and pangas, from retail markets in Dhaka City, Bangladesh. The enumerators conducted surveys with retailers, wholesalers, and producers during the summer of 2022.

"We had a virtual meeting with the International Centre for Diarrhoeal Disease Research, Bangladesh (icddr,b) collaborators before starting the survey," said Tabassum, another enumerator. "In that session, we learned how to conduct the interview to identify the key signs of fish contamination by pathogens or fecal organisms in different environments, such as retail fish markets, wholesale marketplaces, and aquaculture farms."

A semi-structured survey was administered to the traders and producer-households to gather data on demographics, production inputs, marketing and selling practices, aquaculture challenges, and producers' activities that might increase or decrease pathogen loads. By training the enumerators on how to give these surveys, the activity is building research capacity in Bangladesh and promoting continuous improvement to help eliminate harmful foodborne pathogens in the fish value chain.

The enumerators collected information from 60 producer-households located in 16 villages of production centers in Satkhira, Mymensingh, Cumilla, and Narsingdi districts. In addition, 72 wholesale traders, 144 retail traders, and 90 workers at cut-up tables in Dhaka City were surveyed. Of the 144 retail traders, 54 also worked

PROJECT TEAM

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as cut-up table workers for their sold fish, meaning they were able to cut up the fish at their stall and their customers did not need to go to external cut-up table workers for cutting their fish.

For each of the data collection modules, the survey team spent two days on training before starting the survey in the field. As part of the deployment of the survey, enumerators learned how to adapt their approaches to surveying based on the responses they received from traders and producers.

"During our field visit to retail markets, initially, the fish sellers were reluctant to talk about how they store the unsold fish for the next day or how many times a day they change water for the fish," Jesmin said. "After the first few interactions, we got to understand where these concerns are coming from, so we changed our techniques and reported their experience. It taught me the importance of an adaptive data collection technique, which is also consistent with the quantitative analysis."

Data collection from primary sources was challenging for various reasons. One challenge was interviewing traders during their busy operation hours. The enumerators had to wait and ask questions when there were lulls in customer activity. The survey timing was another hurdle because wholesale traders operate early in the morning for limited hours, and for some target areas for data collection, the team members had to travel long distances via trains, buses, or motorcycles.

"Along with collaboration with the team members, we learned how to interact with different people," Tabassum said. "We also conducted a field survey with the icddr,b team at Trishal, Mymensingh, and we went to two fish farms and spoke with the owners of those farms. The data collection experience in and out of Dhaka City could especially be a tremendous help for us in upcoming research."

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