

## DREAMS OF BECOMING A SUCCESSFUL, QUALITY FISH SEED PRODUCER ARE REALIZED

By Md. Rafiqul Islam Sarder, Mohammad Matiur Rahman, and Mariom

From the Nongorpur village in Jashore District, Md. Liton Morol's early experience as a fish seed producer in Bangladesh was tumultuous. In 2007, he ventured to start producing fingerlings by renting a fish nursery farm from his uncle. The partnership, called Sotota Fish Farm, covered 2.5 acres and three ponds. He started to produce fingerlings by rearing the seeds (fish fry) collected from his uncle's Matri Fish Hatchery, and later, he collected newly hatched fish fry from other hatcheries too. Morol also started to master nursery management with the technical support of the Department of Fisheries, and he developed market linkages with several table-fish producing farms in different districts in Bangladesh. Through this, he was able to expand his farm area to 4.5 acres within a few years.



Sampling of fish in presence of Liton Morol (far left) at his nursery farm.  
(Photo by Md. Rafiqul Islam Sarder)

Unfortunately, after seven to eight years, Morol started to face problems with high mortality of fish seeds after stocking the nursery ponds and outbreaks of diseases, especially for the exotic carp species. At the same time, he started to receive complaints from his customers about poor fish growth in their aquaculture ponds. He realized that the problem was coming from the fish seeds and started to stock seeds from different hatcheries, but the results did not improve as expected. Consequently, as time went on, demand for fingerlings produced on his farm decreased, and he decided to shut down the farm and start a new business.

Everything changed, however, when Morol received a day-long training from the USAID-funded Feed the Future Innovation Lab for Fish activity seeking to use cryogenic sperm banking with carps for commercial seed production and brood banking. After the training, he became interested in rearing cryopreserved sperm-originated seeds on his farm, and the activity selected his farm as a technology-adoption nursery. The research team connected with the fish hatchery owned by his uncle, Jahidur Rahman, where breeding of rohu, mrigal, and silver carp was conducted successfully with cryopreserved sperm and hatchery-origin fresh sperm.

Morol received seeds of all three species from Rahman and reared fish fry from cryopreserved sperm and hatchery-origin in two separate ponds under the same management practices for about six months. The activity helped provide partial financial support for pond preparation and feed, and they carried out monthly sampling by PhD and master's students to determine the growth performances of both seeds.

## ACTIVITY TEAM

### Lead PI and Bangladesh PI

Md. Rafiqul Islam Sarder, PhD  
Bangladesh Agricultural University

### Bangladesh Co-PI

Mohammad Matiur Rahman, PhD  
Bangladesh Agricultural University

### U.S. PI

Terrence Tiersch, PhD  
Louisiana State University  
Agricultural Center

### Team Member

Mariom, PhD  
Bangladesh Agricultural University

"During samplings, I found significantly higher growth in cryopreserved sperm-originated seeds than the control and sold these fingerlings to some farms where they observed the same performance within six months of rearing," Morol said. "Not only have I experienced higher growth rates, but the fish have more attractive colors and perfect body shapes comparably."

This information was shared with local fish farmers and hatchery owners, and they expressed their interest to purchase these fast-growing cryopreserved sperm-originated fish from him. He sold some of the cryopreserved sperm-originated fish to the hatchery owners for quality brood production and the rest of them to table-fish producing farms with high market prices.

"As a result, the market value of these fish was much higher, and I got more profit," Morol said. "In the second year of these trials, I stocked cryopreserved sperm-originated seeds

of catla and grass carps and obtained good results from them, similar to the previous year. Now, I am confident that the problems of producing quality fingerlings on my farm could be resolved by using the sperm cryopreservation technology. I am excited and hopeful to continue fingerling production in Bangladesh by rearing cryopreserved sperm-originated seeds for the betterment of aquaculture."

---

## 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](http://www.feedthefuture.gov)  
[www.fishinnovationlab.msstate.edu](http://www.fishinnovationlab.msstate.edu)