Integrating Solutions Locally

AquaFish transfers the benefits of aquaculture at the local level by training a variety of stakeholders, such as small- to medium-enterprise farmers, mothers and heads of households, and community groups. In Nepal, AquaFish is addressing food security and household nutrition through extension programs at schools and farms that train students (grades 8 to 10), teachers, women’s groups, and farmers in sustainable aquaculture production. The project confirmed schools can serve as a foundation to empower youth, women, and nearby farmers with aquaculture knowledge and skills.

Broader Impacts:

- The project trained 121 students (64 girls and 57 boys), eight teachers, and 44 women through women's groups.
- Knowledge transfer was measured using pre- and post-tests. Only 4% of students scored 60% or better on the pre-test, but after participating in the curriculum and hands on training, 85% of students scored higher than 60%.
- After the first year of the program, pond ownership among student households increased by 4% and the number of times per year student households consumed fish increased by 47%.
- School pond installation piqued interest among the surrounding communities. Local farmers established ponds of their own within a few months of attending AquaFish trainings.

Regional Partnerships Inform National Policy

Integration and coordination across local, regional, and national levels can add value to activities and often increases the likelihood of change at national scales. For example, AquaFish research played a substantial role in lifting decade-long snakehead farming ban in Cambodia in 2016 by creating and informing options for a sustainable snakehead aquaculture program. A key tipping point in lifting the ban was the generation of processed fish feeds, which AquaFish researchers in Cambodia, Vietnam, and the US helped to develop. New feed formulations using soy and vitamin C decrease reliance on small-sized fish and lessens the environmental impact of snakehead aquaculture, while the lifting of the ban augments income opportunities for farmers.

Broader Impacts:

- Cambodia’s Fisheries Administration (FiA) sought information from AquaFish regarding our work on snakehead domestication, breeding, weaning, and grow-out to inform the design and implementation of a sustainable snakehead aquaculture program.
- Lifting the snakehead ban enhanced trade and investment for global fishery markets, opening the door for improved economic opportunities and increased food security for Cambodians.
- AquaFish weaned the first Cambodian snakehead strain onto a soy-based feed developed by AquaFish, a critical first step in generating a fully domesticated strain of snakehead in Cambodia.

Value of International Collaboration

AquaFish research and dissemination efforts connect international stakeholders. The AquaFish Collaborative Research Support Program (CRSP) Mali Project, for instance, used a novel (at the time) South-South approach – a framework designed to tackle food security challenges by facilitating collaboration between Southern countries – to bring together in Mali AquaFish researchers from Kenya, China, and Thailand. The project’s efforts set the stage for further development of aquaculture and fisheries sectors in Mali by introducing best management practices, transferring technologies among stakeholders, and increasing economic opportunities.

- 20 workshops reached 358 participants in Mali, covering a variety of aquaculture topics, including: pond site selection, establishment, and management; up-to-date techniques for rice-fish culture; catfish breeding, propagation, and care; tilapia pond water quality; and best management practices.
- Field testing and demonstrations were also conducted to complement workshop activities, providing guided, hands-on experience to farmers.

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