

CAPACITY BUILDING FOR SUSTAINABLE AQUACULTURE AND FISHERIES DEVELOPMENT: A REVIEW OF LONG- AND SHORT-TERM TRAINING CONDUCTED BY THE AQUAFISH CRSP FROM 2006 TO 2011

Ford Evans*, James Bowman, Lisa Reifke, and Hillary Egna
Oregon State University, Corvallis, OR USA

Introduction

The Aquaculture & Fisheries Collaborative Research Support Program (AquaFish CRSP) has been actively engaged in aquaculture and fisheries research, training, and outreach in over 19 countries in Africa, Asia, and the Americas since its inception in 2006 (Figure 1). The many successes of this program have only been possible because of the close collaborations that have been developed between researchers and educators at the 17 US and 33 Host Country institutions that have worked together to reach AquaFish CRSP objectives. Key among those objectives has been to build and strengthen the capacities of aquaculture and fisheries institutions and personnel both in the US and overseas. Our aim has been to achieve this at all levels, including pond operators at research facilities, extension personnel, existing and potential fish farmers, and top-level researchers and administrators at research and educational institutions. A complementary objective has been to ensure gender-equitable access to CRSP training opportunities and resources; therefore a program-wide target for participation by women was set at 50%.

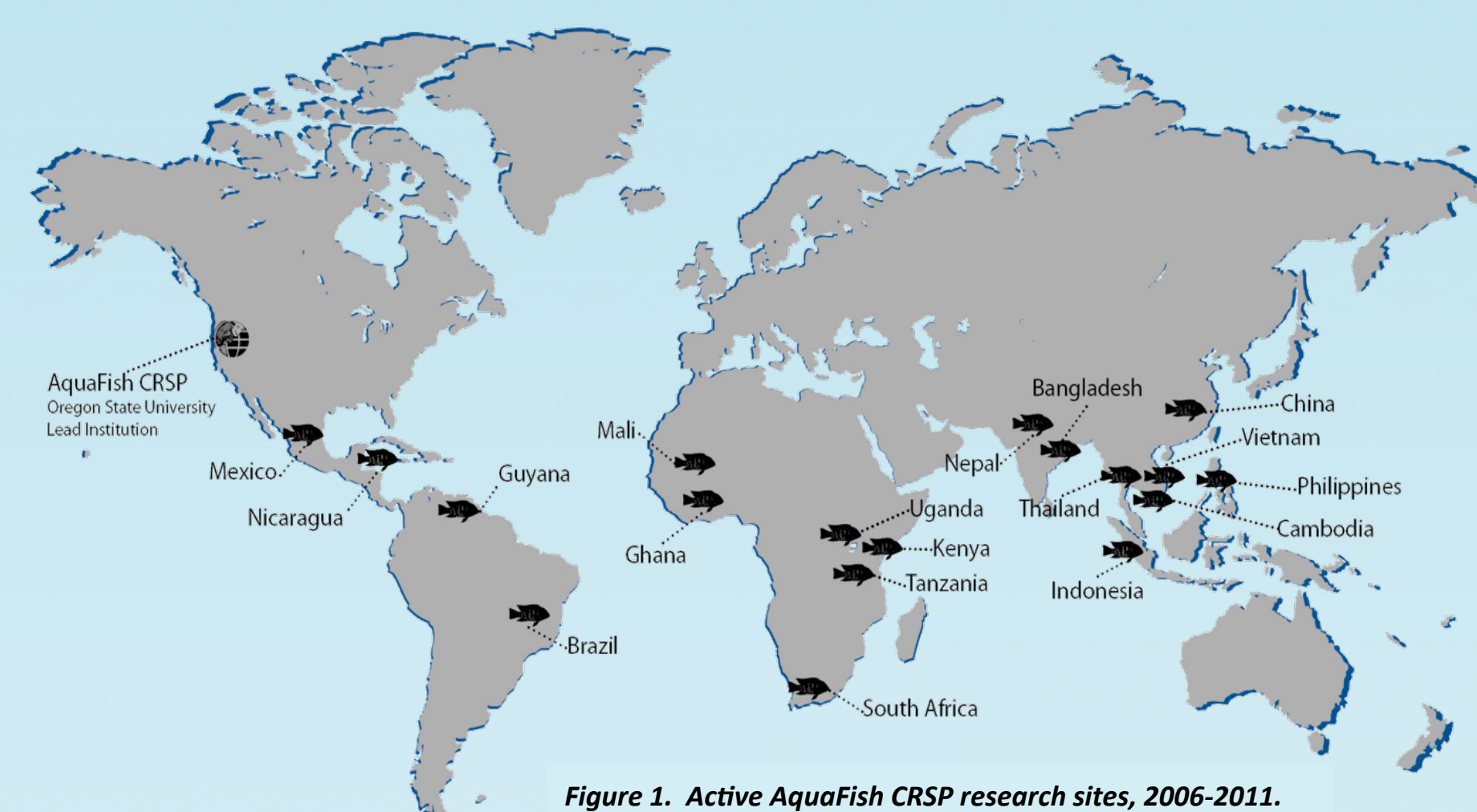


Figure 1. Active AquaFish CRSP research sites, 2006-2011.



While most AquaFish CRSP training has a classroom component, greater emphasis is usually placed on providing technical skills and practical experience through hands-on field work.

Short-Term Training

Short-term training is defined as being under 6 months in duration and typically includes seminars, workshops, short-courses, and internships. Workshops provided training for Host Country extension specialists, fisheries officers, local fish farmers, processors, vendors, small business owners, and members of NGOs, focusing on topics critical to aquaculture and fisheries development in their countries or regions.

Since the program's inception in October 2006, AquaFish CRSP projects have held 181 short-term training sessions with over 6348 participants. Approximately 33% of participants were women. Of these, 76 training sessions were held in Asia (30 in Cambodia, 13 in the Philippines, 11 in Vietnam, 10 in China, 9 in Indonesia, and 1 each in Nepal, Thailand, and New Caledonia), 63 were held in Latin America and the Caribbean (39 in Mexico, 14 in Nicaragua, 9 in Guyana, 1 in Guatemala, and 1 in Brazil), and 37 were held in Africa (12 in Uganda, 10 in Kenya, 9 in Ghana, 4 in Tanzania, and 2 in South Africa) (Figure 2).

Examples of Workshops Conducted:

- Annual Fish Farmers Symposia & Trade Fairs (Uganda)
- Workshops on milkfish postharvest procedures for women (Philippines)
- Integrated aquaculture/agriculture workshop (Mexico)
- Workshop on fish propagation and hatchery management (Ghana)
- Training of trainers workshop on formulated feed practices (Cambodia)
- Workshop on aquaculture production of native species (Guyana)
- Successful baitfish farmer training of other interested farmers (Kenya)
- Training course on snakehead breeding and weaning (Vietnam)
- Forum on community-based management of black cockles (Nicaragua)

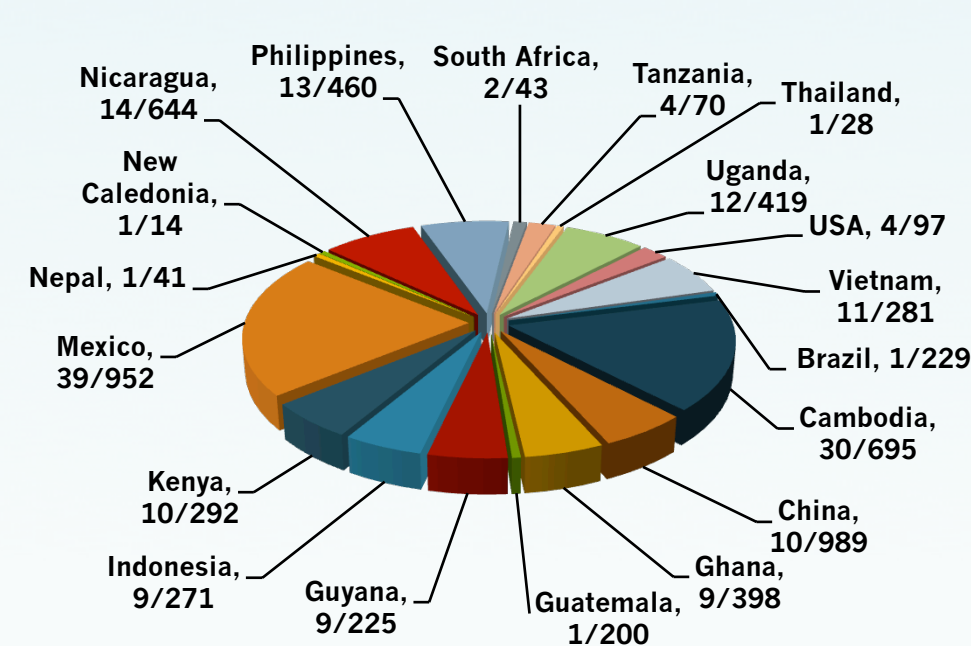


Figure 2. Numbers of workshops and participants in AquaFish CRSP short-term training events from 2006-2011, by country where held.

Long-Term Training

Long-term training is defined as formal training occurring in an academic setting lasting 6 months or longer and culminating in either an academic degree or a technical certificate. Direct involvement in AquaFish CRSP research projects provides Host Country and US students opportunities for both academic training and experience, ensuring positive impacts on international development. Long-term training typically takes the form of participation in degree programs (BS, MS, or PhD) at higher education institutions, either in the US, in a participating Host Country, or in a third country. The goal is for these students to become the next generation of professionals in aquaculture, fisheries, and the broader science disciplines.

Since program inception, long-term training efforts have supported a total of 320 students, of whom 48% were women. These students represent 25 countries, including Bangladesh, Brazil, Cambodia, China, Ecuador, El Salvador, Eritrea, Ghana, Guyana, India, Indonesia, Ivory Coast, Kenya, Mexico, Micronesia, Nepal, Nicaragua, Nigeria, the Philippines, Samoa, South Africa, Tanzania, Uganda, the U.S., and Vietnam.

Among the CRSP's 320 long-term students, 152 were seeking BS degrees (51% men and 49% women); 131 were seeking MS degrees, (51% men and 49% women); and 33 were seeking PhD's (55% men and 45% women). Four other students were in post-doc or certificate programs (Figure 3).

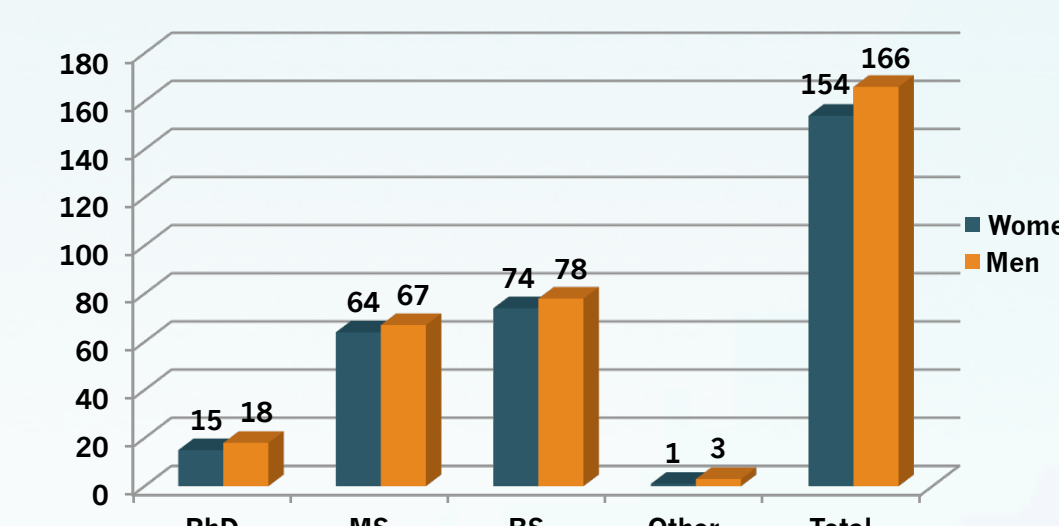


Figure 3. Degrees sought in AquaFish CRSP long-term training between 2006 and 2011, by gender.

Gender Inclusivity in AquaFish CRSP Programming

The AquaFish CRSP has long recognized the social and economic inequalities and marginalization experienced by women, as well as the prominent, yet vulnerable positions that women occupy in the aquaculture and fisheries sectors. Specific actions taken by the CRSP to combat these inequities include requiring each of its core projects to develop a gender inclusivity strategy and a gender-focused investigation, and setting a target of 50% women among participants in training activities. These sustained efforts are helping to increase the number of women in academic, entrepreneurial, and governmental positions as well as increase their visibility in trainings and community and regional involvement. Through equity in training opportunities, the CRSP has been able to provide women with tools to empower themselves, increase bargaining power, and enter new career opportunities.



CRSP trainings for processors such as this Cambodian woman help them improve the quality and safety of prahoc (fish paste), an important source of protein for the poor.



Lucero Vazquez Cruz, a graduate student at the Autonomous University of Tabasco in Mexico, studies how bacteria can degrade the steroid methyltestosterone.

Summary

The AquaFish CRSP's capacity building efforts have benefitted stakeholders in participating Host Countries and the US through the transfer of knowledge and technology and the dissemination of information about best management practices. This transfer of knowledge translates into increased productivity, output, and operational efficiency at aquaculture facilities, as well as the implementation of more sustainable practices in both aquaculture and fisheries, thus offering increased economic opportunities and protection of fisheries and other aquatic resources in all regions. CRSP training has led to a high measure of self-sufficiency among Host Country partners in countries in Asia, Africa, and the Americas, bringing the CRSP ever closer to its goal of enabling its partners to find solutions to pressing problems facing them in our fast changing world.



The CRSP is helping women learn how to manage cockle populations in the coastal estuaries of Nicaragua to ensure a steady and plentiful supply of these shellfish for their families.



Gertrude Atukunda, CRSP investigator, looks over pond data with two young women scientists at the Kajansi Aquaculture Research and Development Center (KARDC) in Uganda.



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