Building Human and Institutional Capacity by Supporting Higher Education in Africa

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Introduction

The development and strengthening of human capacity in partner countries is a goal of the Feed the Future Innovation Lab for Collaborative Research on Aquaculture & Fisheries (AquaFish). AquaFish has developed a diverse, collaborative network of international researchers and stakeholders dedicated to the sustainable development of aquaculture and fisheries. AquaFish builds human and institutional capacity through educational partnerships, by establishing curricula and partnerships at many universities, and through training aquaculture farmers, researchers, and professionals who can share and apply their knowledge on local levels. Additionally, AquaFish focuses on improving gender equity and supporting women’s empowerment throughout the aquaculture sector, from degree-seeking students to workshops trainees.

Building Institutional Capacity

AquaFish is expanding capacity in Africa by collaborating with faculty and researchers, sharing resources and facilities, supporting degree-seeking students, developing aquaculture-related curriculum, and building partnerships with local aquaculture and fisheries organizations.

In Ghana, AquaFish facilitated the establishment of advanced degree programs in Aquaculture and Water Resource Management at Kwanse Nkrumah University of Science and Technology (KNUST). The curriculum was designed to emphasize environmental sustainability and business aspects of aquaculture while ensuring on-the-ground application to farmers.

In December 2015, the fish farm at KNUST received the National Best Pond Fish Farmer Award and a Certificate of Merit for contributing to the development of sustainable aquaculture in Ghana. KNUST received the award based on its use of best management practices including water reuse, record keeping, and fertilizer reduction.

In Kenya, a series of short-term trainings for local fisheries department personnel, farmers, and students helped establish aquaculture ponds at University of Eldoret a decade ago. Participants gained valuable experience in proper pond construction, fish handling, and pond management. The project trained 80 Fisheries Department Staff, 24 Fisheries Officers of Kenya, two outside-funded participants, and fully funded two Master’s of Science students. Five farmer education days were also held, reaching 107 farmers and 40 extension agents. The ponds are still utilized today for training and ground application to farmers.

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All photos are courtesy of AquaFish Innovation Lab.

Long-term Training

AquaFish provides support, mentorship, and academic guidance to students in post-secondary and graduate-degree programs in many disciplines helping early-career researchers build and strengthen their professional networks. In addition to earning a degree, students benefit from hands-on research experience and access to an international network, which can help propel them to future positions in aquaculture, fisheries, and other related disciplines.

Since 2006, 72 AquaFish students from Africa earned post-secondary degrees while 41 African nationals are currently enrolled. AquaFish support for students reaches beyond academia, creating a pipeline of individuals well-equipped to address community needs and find meaningful work in government, academia, and private enterprise upon graduation.

Reflections from Students and Alumni

“Afish are grateful to AquaFish for funding my Master’s and giving me this opportunity to build my career. My most enjoyable times have been learning and the hands-on experiences on aquaculture techniques and being able to attend aquaculture conferences.”
- James Bundi Mugo, Moi University, Kenya, Alumnus

“Amonkwa, I am very privileged to be associated with AquaFish and grateful for their assistance. I want to invest in the aquaculture business, especially with my growing knowledge in its operation, the wealth creation potential, and contribution to national food security.”
- Akuffo Amankwa, Ghana, Recipient, April 2013

“A most enjoyable experience for me was returning to Ghana [from the US] every summer and travelling through local communities interviewing fish farmers and doing other such field work in or close to earthen ponds.”
- Yaw Boamah Ansah, Alumnus, Virginia Tech University

African Borlaug Leap Fellows

The Borlaug Leadership Enhancement in Agriculture Program (LEAP) provides support for thesis research conducted by graduate students from developing countries and recognizes students who demonstrate strong scientific and leadership promise.

The students below were AquaFish-supported award recipients.

Gender Equity

Women have long been underrepresented in science engineering, and technology careers. Although improved in recent years, collective qualitative data shows that women do not remain in science at the same rate as men. To address this, AquaFish uses benchmarks as one way to actively track and ensure equal involvement of men and women in leadership, training, and long-degree programs. Between 2008 and 2015, 46% of the advanced degrees supported by AquaFish were earned by women and in 2016, 50% were women.

Of the African students earning post-secondary degrees supported by AquaFish, 47% were women. Several of these graduates are now research partners involved in current projects, highlighting the benefits of early engagement and retention. As aquaculture continues to expand, it is critical to ensure that men and women have equal access to advances in aquaculture development and the potential benefits for new growth.