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## SUCCESS STORY

### Educating the next generation of aquaculture scientists

By Susan Johnson, Kat Goetting, and Hillary Egna

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#### University develops aquaculture curriculum to train local fish managers



Ethel Tettey, Masters student, attends to her thesis experiment studying the dietary protein requirements of Clariid catfish *Chrysichthys nigrodigitatus* at the KNUST aquaculture lab.

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*-Steve Amisah, KNUST Dean and AquaFish PI*



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When Emmanuel Frimpong was a post-graduate student at Kwame Nkrumah University of Science and Technology (KNUST), he spent his first year accomplishing very little. At the time, fourteen years ago, there were no advanced courses in aquaculture or fisheries, no ongoing research, no textbooks or journals, and only two lecturers in the fisheries and watershed management department. In pursuit of a quality education in aquaculture and fisheries, Frimpong had to leave Ghana to study abroad.

Now, thanks to support from the AquaFish Innovation Lab, KNUST offers not only an undergraduate program in Aquaculture and Water Resources Management, but also Masters and PhD degrees in Aquaculture. Soon to follow within the year, a Masters degree in Aquaculture Business Management and Aquaculture Economics will be available at KNUST.

“AquaFish has steadily built capacity in all fronts, leading to the development of the Master’s program which is awaiting accreditation,” commented Dr. Frimpong, Associate Professor, Virginia Polytechnic Institute and State University and AquaFish Principal Investigator. “The Bachelor’s program was motivated by a lack of practical training in aquaculture and business management and extension. [Both programs] efficiently integrate research, extension, and teaching/training in capacity building.”

The new degree programs have been developed through the lens of food security challenges, in particular the animal protein deficiency and more than 40% gap between domestic fish production and consumption in the country. The importance of research reaching farmers, environmental sustainability, and business aspects of aquaculture will be emphasized in the curriculum.

“Students are trained to acquire the requisite practical skills in fish farming without compromising the integrity of the aquatic environment;” noted Steve Amisah, KNUST Dean of the Faculty of Renewable Natural Resources of the College of Agriculture and Natural Resources and AquaFish Principal Investigator, “thus the program encourages Best Management Practices in fish farming without sacrificing economic benefits.”

AquaFish has played a significant role throughout the accreditation process, providing technical support and input. In concert with curriculum development, AquaFish refurbished the research facilities, provided staff training, built the department’s library resources, and purchased needed equipment and research supplies. The department now employs five PhD-level and two MS-level scientists. All aspects of the department were improved to provide high-quality facilities and build both human and institutional capacity.

AquaFish has a long history of building capacity around the world. Since 2006, AquaFish has supported 351 degrees - 48% were earned by women - and forged partnerships with over 80 institutions. The recent efforts in Ghana are a product of the rich and in-depth collaboration AquaFish has facilitated between Purdue University, Virginia Tech, and KNUST. The collaborative relationships AquaFish has forged are producing benefits that will go beyond the life of the program and will have a sustainable impact for years to come.