

# Empowering Women and Youth Can Advance Sustainable Aquaculture and Increase Food Security

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## Introduction

Empowering women and youth with knowledge and skills related to aquaculture can positively impact household nutrition, food security, and income. However, women's potential to contribute to sustainable aquaculture and improved nutrition is limited by restricted market opportunities, lack of access to education, and inequalities in economic participation and decision-making power. Likewise, Africa's youth ( $\leq 25$  years), comprising over 50 percent of the continent's population, encounter similar obstacles. Not only are women and youth tied to each other by their barriers to participation in the agriculture sector, they are also intrinsically linked by maternal health through early childhood development.

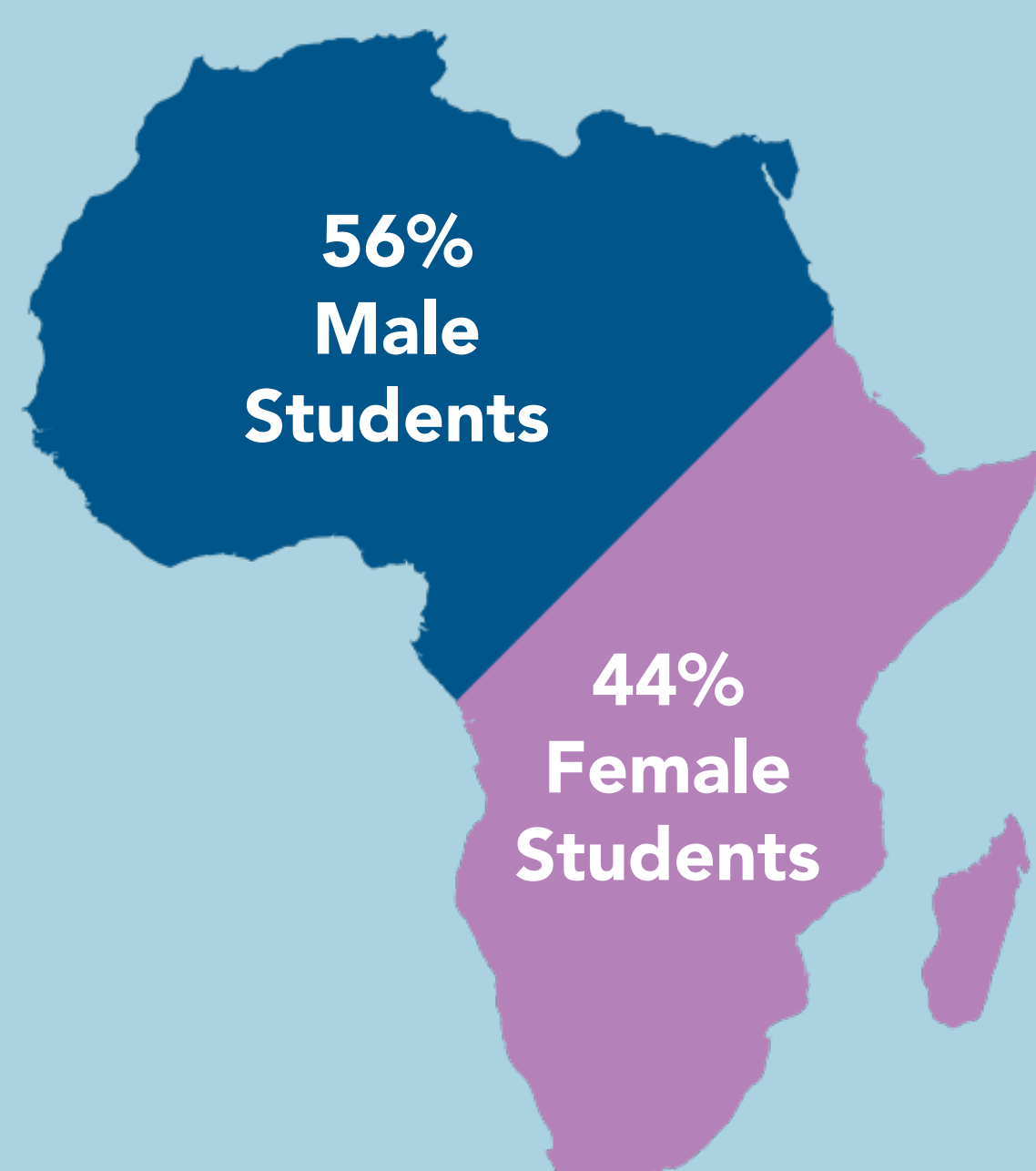
### AquaFish conducts research and training to help women and youth overcome barriers.

Undernutrition in the first two years of a child's life can have permanent consequences on their well-being. Mothers, as gatekeepers of household nutrition, have the power to improve children's health — if given the opportunity.

Between 50% and 70% of youth in Africa rely on agriculture for food and employment, while over 40 percent of rural workers are women; however, only five percent of women receive extension services. To uplift these marginalized groups, the Feed the Future Innovation Lab for Collaborative Research on Aquaculture & Fisheries (AquaFish) conducts research and training activities that engage women and youth on sustainable aquaculture practices.

Since 2006, AquaFish has supported **109 African students** from 10 countries in a variety of degree programs:

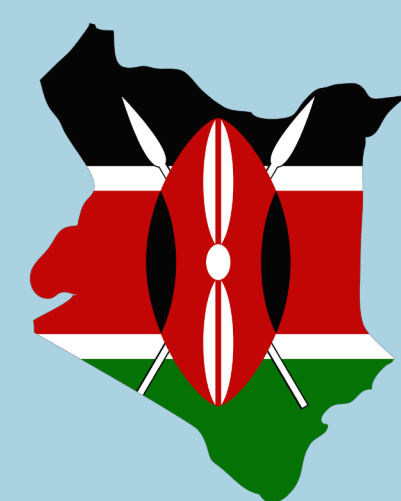
- 11 PhD
- 54 Master's
- 44 Bachelor's and Certificates



## Empowering women and youth in aquaculture can positively impact household nutrition, food security, and income.



Young women High School students visit Mwea Aquafish Farm in Kenya to learn about aquaculture. Photo by Charles Ngugi



AquaFish researchers in **Kenya** conducted a training with **45 youth and extension agents** on establishing cage culture systems. The training, co-sponsored by the Food and Agriculture Organization (FAO) of the United Nations, covered several aspects of pond culture from site selection and construction to production, management, and fish farming as a business. As a result, the youth trainees, who have no access to land, were able to establish aquaculture cages in dammed reservoirs through cooperative agreements. A follow-up training, held one year after the first training in 2015, allowed the youth to provide updates on their cages and receive additional training on advanced topics.

In 2016, AquaFish researchers held a five-day Aquaculture Best Management Practices workshop at Mwea Aquafish Farm in Kenya. The workshop, which included women and youth participants, covered pond construction and design, fertilizer applications, feed practices, and pond management. At the conclusion of the workshop, participants agreed to form a farmer's association to continue working together.

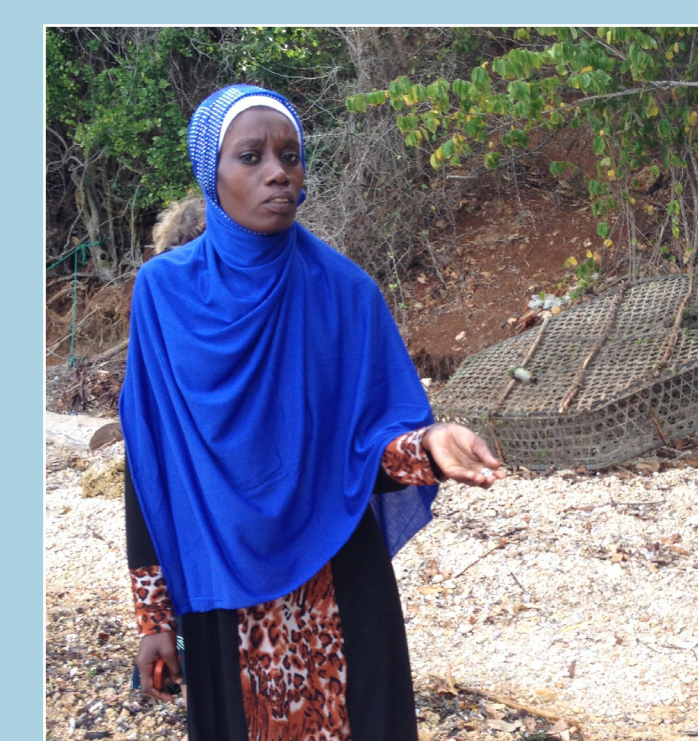


Trainees learn best practices for harvesting fish. Photo by Charles Ngugi



In Zanzibar, **Tanzania**, two women AquaFish researchers from the University of Hawaii and the University of Dar es Salaam Institute of Marine Sciences are combining the development of aquaculture with integrated coastal and fisheries management to advance alternative livelihoods. Shellfish provide one of the main income sources for coastal women through direct sales and alternative products that include pearl farming, crafting shellfish jewelry, and other activities. Farming of bivalve shellfish also represents a direct means of improving nutrition through local consumption.

AquaFish researchers are currently working to address one of the primary obstacles in the further development of small shellfish farms — how to obtain stock in a sustainable manner. Spat collection is one of the most sustainable and cost-effective methods to obtain stock for shellfish farms, so different methods are being tested to determine the best materials and timing for spat collectors. In addition, AquaFish researchers are working with women to develop an action plan for further development of the small-scale bivalve industry.



*Women involved in the project earn \$160 to \$220 per month in supplemental income from pearl farming.*

*The extra income has allowed women to pay school fees, build houses, and, in one case, buy a fishing boat.*



**AquaFish has built a network of aquaculturists dedicated to carrying forward inclusive research and capacity building in developing countries.**

