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## AQUAFISH CRSP PROJECTS IN AFRICA

**Hydrology, Water Harvesting, and Watershed Management for Food Security, Income, and Health: Small Impoundments for Aquaculture and Other Community Uses**  
Auburn University, Alabama A&M, and University of Georgia: South Africa, Kenya, Ghana, and Uganda

**Improving Competitiveness of African Aquaculture Through Capacity Building, Improved Technology, and Management of Supply Chain and Natural Resources**  
Purdue University, Virginia Technology Institute & State University, and University of Arkansas, Pine Bluff: Ghana, Kenya, & Tanzania

**Aquatic Resources Use and Conservation for Sustainable Freshwater Aquaculture and Fisheries in Mali (Associate Award: Ended 12/31/2010)**  
Oregon State University, FishAfrica, and Shanghai Ocean University: Mali

**Enhancing the Profitability of Small Aquaculture Operations in Ghana, Kenya, and Tanzania Through Improved Resource Management and Environmental Best Management Practices (Associate Award)**  
Oregon State University, Purdue University, and Virginia Technology Institute & State University: Ghana, Kenya, and Tanzania

### IN ALIGNING OUR GOALS WITH THE FtF INITIATIVES, AQUAFISH CRSP STRIVES TO IMPROVE THE LIVELIHOODS OF SMALLHOLDER FISHERS AND FARMERS BY:

- Promoting development of regional, government-led programs that honor locally identified needs in sustainable aquaculture and fisheries management.
- Mobilizing aquaculture resources through collaboration with international partners
- Strengthening the capacity of stakeholders.
- Implementing comprehensive approaches to improve nutrition through sustainable aquaculture development and fisheries management initiatives.
- Leveraging resources and investments aligned with US and Host Country development priorities to provide essential financial and technical support.
- Establishing benchmarks to gauge Host Country progress towards improving livelihoods and building local capacity and infrastructure.

# IMPROVING LIVELIHOODS IN AFRICA THROUGH ADVANCES IN AQUACULTURE PRODUCTIVITY AND WATERSHED MANAGEMENT

Building on a strong foundation of long lasting partnerships, the AquaFish CRSP has guided integrative, crosscutting research throughout Africa. AquaFish addresses the root causes of poverty and hunger by addressing key issues of sustainable development through a holistic set of investigations focused on the environmental, social, and economic aspects of advancing the productivity frontier. The program, headquartered at Oregon State University, has sponsored projects in five of 20 FtF focus countries —Mali, Ghana, South Africa, Uganda, Kenya, and Tanzania — and one of the four FtF strategic partners, South Africa. Since its inception in late 2006, AquaFish CRSP researchers have made significant advances in reducing negative environmental impacts of aquaculture, increasing profitability for small-scale fishers and farmers, improving human health, and building on-the-ground capacity among women and men in Africa.



## RESEARCH HIGHLIGHTS

### KENYA



In an effort to boost its economy, the Kenyan government recently launched a stimulus program, which includes a KSh1.4 Billion (US\$16 million) effort to expand small-scale fish farming. AquaFish CRSP has been a key partner in developing the Kenyan aquaculture industry and infrastructure since 1994, laying the groundwork for a sustainable, self-sufficient sector. CRSP-trained researchers, extensionists, policy makers, and stakeholders are playing a significant role in meeting this goal. This partnership between CRSP and the government promise major successes in bringing affordable high quality diets and improved livelihoods to the rural poor, particularly women and children.

### MALI



Taking a South-South approach, the AquaFish CRSP Mali project paved the way for the transfer of rice-fish technology from China to Mali. Practiced in China for over 2,000 years, rice-fish culture offered great potential for improving diets and income opportunities for smallholder farmers. In 2009, two demonstration rice fields that were converted to the rice-fish system yielded a rice and fish harvest that doubled profit (by CFA 60,720). In response to this success, over 20 rice farmers had converted their fields to the rice-fish farming system by April 2011 (a tenfold increase in a year).

### TANZANIA



In aquaculture, the cost of fish feed is one of the primary production costs, often impeding its adoption in small rural communities. To address this issue in Tanzania, AquaFish CRSP researchers are developing a lower cost feed, containing leafmeals from two local, leguminous tree species (*M. oleifera* and *L. leucocephala*). The high-protein leafmeals replace the more costly soybean meal in tilapia diets, making the feed more affordable for poor, local farmers.

### UGANDA



Researchers in Uganda are modeling surface catchments using an integrated suite of software approaches to assess water availability and promote wetland protection. These tools are helping to aid decision makers in their efforts to more sustainably utilize community water resources when they design watershed management plans that incorporate aquaculture into current usage schemes.

### GHANA



A baseline study of the pond aquaculture-environmental interaction in the Ashanti and Brong Ahafo regions of Ghana is the first of its kind for the humid forest zone of sub-Saharan Africa. It will serve as an important reference for the policy makers and regulators involved with the development of sustainable aquaculture in the region.



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