Nutrition Strategy

The AquaFish Innovation Lab leads research and capacity-building efforts to reduce poverty and hunger in developing nations by advancing sustainable aquaculture development and responsible aquatic resource management. AquaFish is in alignment with the US Government's Feed the Future (FTF) Initiative and is funded by the United States Agency for International Development and institutions in the US and participating host countries.

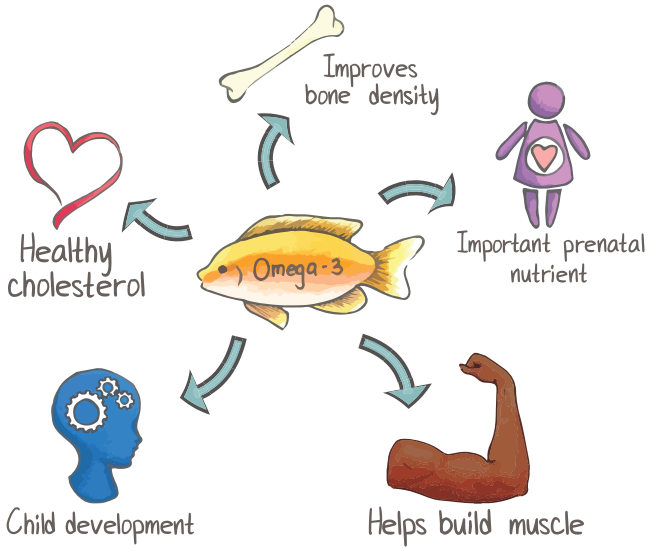
AquaFish aims to improve human nutrition through research, technology development, and capacity building in aquaculture, fisheries, and aquatic resource management. Current research is underway in nine countries in Asia and Africa.

AquaFish Nutrition Strategies

- Assess nutritional needs of households and communities
- Research nutrient-rich and resilient aquaculture species to help ensure future availability
- Advance research of value-added products
- Support training activities and capacity building to transfer technologies and knowledge to reduce hunger and undernutrition
- Promote equal inclusion of women in all program activities

Fish And Nutrition

According to the World Health Organization, regular consumption of fish is recommended to reduce the risk of cardiovascular illnesses and to help promote healthy blood cholesterol, increase bone density, and build muscle.



The nutrients in fish can help fill gaps that represent some of the most widespread deficiencies among vulnerable populations, specifically iron, zinc, and vitamin A. Small fish that are eaten whole also are packed with fat-soluble vitamins (A, D, and E), water-soluble vitamins (B complex), and minerals (calcium, phosphorus, iron, iodine, and selenium). Humans can more effectively metabolize fish oils than most other sources of long-chain omega-3 polyunsaturated fatty acids, which are critical for neurodevelopment and long-term vascular health.

Fish and other aquatic products can be dried and saved as post-harvest food reserves, thereby extending food availability throughout the year and reducing vulnerability to undernutrition and its broad set of health consequences.

Research Highlights

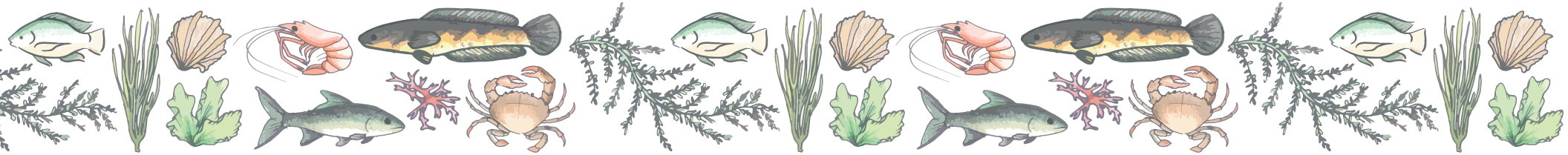
AquaFish partners with US and international universities to improve the nutritional status of rural communities through aquaculture.

Mola-Prawn Polyculture in Bangladesh

AquaFish research led by North Carolina State University is focused on integrating mola fish and freshwater prawn farming to increase household nutrition and earnings for rural farmers in southwest Bangladesh, where 50% of women are malnourished and 38% of all preschool children experience vitamin A deficiencies. By integrating mola — a small fish high in vitamin A and micronutrients — with freshwater prawns, researchers found that mola can be continuously harvested to meet household nutritional needs, while prawns can be sold as a cash crop to increase income.

Aquaculture and Household Nutrition in Ghana and Tanzania

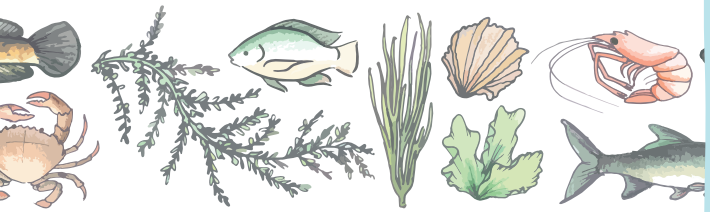
AquaFish research led by Purdue University applied the World Food Program's Food Consumption Score (FCS) measures to assess nutritional quality of households in Ghana and Tanzania. Because fish is an important source of protein and essential micronutrients for almost all African households, this study evaluated the impact of fish farming on household nutrition. Results reveal that in Ghana, households that engage in fish farming have higher diet diversity and food security than nonfish farming households. In Tanzania, the data showed that household income and urban residence positively affect dietary diversity and nutritional quality. Mother's education level was also found to be a strong predictor of household FCS in Ghana.



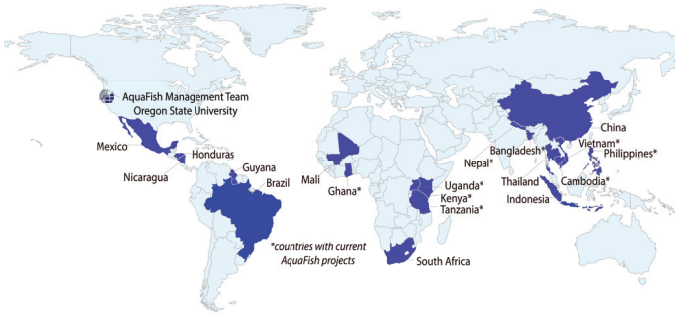
The Role of Aquaculture in Nutrition

The United Nations Food and Agriculture Organization estimates that nearly 805 million people suffered from chronic hunger and undernourishment from 2012-2014, with the majority living in developing nations. In an effort to address hunger and poverty, AquaFish promotes increased aquaculture productivity, with a focus on equipping smallholder farms with tools, training, and technology. Because mothers serve as gatekeepers to household nutrition, inclusion of women in aquaculture production is essential to combatting undernutrition. Early intervention is vital as undernutrition during early development and childhood leads to permanent consequences on health, well-being, and economic capacity.

Aquaculture has a positive link to food security and decreased poverty rates in developing nations, and it is the fastest growing animal food production sector globally. Fish comprise a substantial portion of the animal protein consumed throughout much of the world, and aquaculture contributes nearly half of the global fish supply destined for human consumption. Cultured fish can help absorb some of the growing demand for meat. Relative to the expense and resource cost of producing beef, pork, mutton, and poultry, fish are inexpensive, fast growing, and easy to produce.



AquaFish Project Countries Since 2006



The AquaFish mission is to enrich livelihoods and promote health by cultivating international multidisciplinary partnerships that advance science, research, education, and outreach in aquaculture and fisheries.

AquaFish Innovation Lab
DIRECTOR: Dr. Hillary Egna
Oregon State University
College of Agricultural Sciences
Corvallis, OR 97331 USA
Tel: 541.737.6423
Email: aquafish@oregonstate.edu

July 2016

IMPROVING HUMAN NUTRITION THROUGH AQUACULTURE

AquaFish Innovation Lab

aquafish.oregonstate.edu

USAID FROM THE AMERICAN PEOPLE

OSU Oregon State University