



## Consultative Group on International Agricultural Research



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For more information, contact:

Catherine Mgendi: +254 726 243 046 or [c.mgendi@cgiar.org](mailto:c.mgendi@cgiar.org)

Jeff Haskins: +254 729 871 422 or [jhaskins@burnesscommunications.com](mailto:jhaskins@burnesscommunications.com)

### **Innovative Fish Farming Project for HIV-affected Families in Malawi Doubles Incomes and Boosts Household Nutrition**

*Integrated Agriculture-Aquaculture Pilot Project in Malawi  
Expands to 26,000 Families across Southern Africa*

ZOMBA, MALAWI (AUGUST 21, 2007)—Scientists at the WorldFish Center reported today that an innovative project to encourage fish farming among families affected by HIV/AIDS in Malawi has doubled the income for 1,200 households and greatly increased fish and vegetable consumption among rural communities.

The findings were released in a review of a multi-year initiative by the Malaysia-based WorldFish Center, one of 15 centers supported by the Consultative Group for International Agricultural Research (CGIAR) and World Vision, an international humanitarian aid organization, to promote aquaculture among “vulnerable populations” in Malawi. The two organizations have worked extensively throughout Malawi, a country of 12.1 million people that has been devastated by the AIDS pandemic, encouraging farming families headed by women and orphans to adopt a practice known as integrated agriculture-aquaculture.

The project assists farmers by digging small, rain-fed ponds of about 20 meters by 10 meters on their land. The farmers use the ponds to raise commonly cultivated fish species such as tilapia. Farm and kitchen waste serves as food for fish and labor requirements are not intensive—children and the elderly can assist—making the ponds easy to manage for households affected by the AIDS pandemic.

“These small fish ponds offer tremendous benefits to struggling farming families in rural Africa whose many challenges have been greatly compounded by AIDS,” said Stephen Hall, Director General of WorldFish. “In addition to the income they gain from selling fish, the fish themselves provide a vital source of food that is critical to survival for people with HIV/AIDS. The ponds also can provide water for crops during dry periods and sediment that makes for an excellent fertilizer.”

Malawi ranks among the world's least developed countries. Today, almost one-fifth of Malawians aged 15-49 are infected with HIV/AIDS and each year tens of thousands of Malawians die as a result of the disease. The pandemic has increased poverty and hunger among the people of Malawi, most of whom are subsistence farmers cultivating less than one hectare of land.

Families participating in the fish farming project have shown a 150 percent increase in fresh fish consumption, boosting their intake of protein, calcium, vitamin A and micronutrients. Research by the World Health Organization has shown that good nourishment can prolong the life of

HIV/AIDS patients by up to 8 years. According to the World Food Programme, fresh fish offers important nutritional benefits to persons with disease who need up to 50 percent more protein and 15 percent more calories than healthy people.

A 2006 nutrition survey by World Vision found that for households adopting the integrated agriculture-aquaculture approach to farming, in three years malnutrition among children under five dropped from 45 percent to about 15 percent.

“The purpose of the project is to develop technologies and practices in fish production that are specifically suited for orphan and widow-headed households,” said Dr. Daniel Jamu, the Regional Director for WorldFish in Eastern and Southern Africa. “As a result, we’ve seen that fish farming, while not a cure-all for their problems, can dramatically improve conditions among Malawi’s rural families dealing with HIV/AIDS.”

The success of aquaculture in Malawi has prompted WorldFish and its partners to aggressively expand the initiative to include 26,000 farming households in Malawi and neighboring Mozambique and Zambia, with the goal of providing benefits to 134,000 people.

So far about 30 percent of the farmers in the program are women. Experts working with WorldFish and World Vision teach them how to raise, process and market their fish, generating much-needed income for their families. Like many areas of Africa where the AIDS pandemic has raged unchecked, women in Malawi are the primary providers and caregivers for their families.

Fish caught from natural lakes and streams have traditionally been an important part of the diet in landlocked Malawi. But an increase in population and a decline in catches reduced annual per capita fish consumption from 14 kilograms in the 1970s to 4.2 kilograms in 2005. However, previous efforts to increase fish consumption through aquaculture have failed, in part because they required large financial investments from farmers who simply did not have the money.

The WorldFish approach is succeeding because it cheaply and efficiently integrates aquaculture into existing farm operations. Investment is minimal because farmers are encouraged to use farm waste and crop byproducts to feed their fish. And by providing additional water and fertilizer (in the form of pond sediment), fish farming can boost production of crops across the farm, including cash crops that are intended for local and regional markets.

The ponds have proven capable of producing 1,500 kilograms of fish per hectare each year, which often leaves some excess food available to be sold to pay for medical care and household needs.

In addition, some farmers have started growing valuable crops like bananas and guava on the perimeter of their ponds, taking advantage of the water that seeps into the surrounding soil to keep their plants thriving. Also, the sediment dredged from the bottom of the ponds is an effective fertilizer that can boost crop production with just a single application. During times of drought, an increasing reality in much of Malawi and something that is expected to worsen due to climate change, ponds make the entire farming system more resilient. WorldFish research has shown that farms that integrated ponds into their traditional agriculture farming were nearly 20 percent more productive during times of drought than farms without ponds.

A WorldFish impact study shows that between 1999 and 2004, the number of fish farmers in Malawi grew by 300 percent. According to Dr. Jamu, “Many poor farmers in Malawi and elsewhere in sub-Saharan Africa are starting to view aquaculture as an easier and cheaper

alternative to raising cattle. Fish provide essential proteins, minerals and vitamins, in addition to much needed income. Also, fish farming appears to be a more sustainable and efficient way to increase food production compared to the practice of trying to boost production through 'slash and burn' land clearing."

"Sub-Saharan Africa is the only region of the world where per capita fish consumption is declining and it is clear that the availability of fish harvested from natural waters or 'capture fisheries' is insufficient to support the growing demand and need for fish protein," Dr. Jamu said.

"You might think of the potential impact of this project in the context of an old Chinese proverb," said Dr. Jamu. "Give a man a fish and he will eat for a day. Teach him how to fish and he will eat for a lifetime."

Dr. Jamu believes the only way to bring supplies in line with demand is to expand aquaculture operations in the region. "This project shows that farmers can produce up to 1,500 kilograms of fish per hectare. If fish farming was adopted on only one percent of the 250 million hectares identified by the UN's Food and Agriculture Organization as suitable for aquaculture, the operations could produce 3.75 million tons of fish per year. That's four times the reported catch for all fisheries in the region."

WorldFish has recently partnered with Globalgiving.com to establish an opportunity for people interested in the Malawi project to contribute online. For example, \$10 can buy enough fish to stock one family's pond and \$200 can enable the construction of an entire fish pond. More information is available at: <http://www.globalgiving.com/pr/1600/proj1517a.html>

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**About The WorldFish Center:**

The WorldFish Center is a non-profit, international research organization that provides solutions to reduce poverty and hunger through fisheries and aquaculture in developing countries. Based in Penang, Malaysia, WorldFish has projects in over 20 countries in Asia, Africa and the Pacific; projects are managed through 12 regional offices. For more information, please visit: [www.worldfishcenter.org](http://www.worldfishcenter.org).

**About the CGIAR:**

The CGIAR is a strategic agricultural research alliance for stimulating agricultural growth, raising farmer incomes and protecting the environment. The CGIAR supports 15 research centres worldwide conducting groundbreaking work to nourish the future. For more information, please visit [www.cgiar.org](http://www.cgiar.org).