Introduction

The Feed the Future Sierra Leone Scaling up Aquaculture Production (SAP) project supports the development of the aquaculture sector in Sierra Leone to increase fish production, consumption and the incomes of small-scale farmers. The WorldFish-led project focuses on Tonkolili District, one of the poorest and nutritionally-insecure regions in the country, with a 28.2 percent childhood stunting rate. Funded by the United States Agency for International Development (USAID), the USD 3.5 million project forms part of the CGIAR Research Program on Fish and aligns with the Sierra Leone Strategic Framework for Sustainable Aquaculture.

Project goals

The four-year project aims to form 90 cluster farmer groups, totaling 2250 farmers producing 1000 metric tons of tilapia each year. This production, alongside improved nutrition-related behaviors and improved awareness of hygiene among women and children, will boost fish consumption to 30 kg per household. A sustainable market chain bolstered by business-minded farmers, whom are connected to microfinance institutions and supported by the private sector, will help to increase farmer households’ income by 40 percent.

Background

Sierra Leone, with a population of 6.3 million, is ranked 179 out of 188 countries in the 2016 Human Development Index. Although the country has substantial natural resources and is committed to attaining middle-income status, institutional damage caused by the 11-year civil war (1991–2002) and the recent Ebola virus disease outbreak have significantly constrained social and economic development.

The fisheries sector is an important source of income, employment and food and nutrition security in Sierra Leone. Marine and inland fisheries contribute about 10 percent to the country’s gross domestic product, and fish is the most important animal-source food in the diets of Sierra Leoneans, providing about 80 percent of animal-source protein intake.

National fish consumption is 17 kg per capita per year and close to the global average of 19.7 kg. Yet this figure is much lower in inland districts such as Tonkolili, where supply of inland fish is inconsistent and the fish that is supplied is often poor quality and of low hygiene. Households instead rely heavily on rice, meaning diets are often lacking in the micronutrients, minerals, essential fatty acids and proteins present in fish and that are needed for good health, particularly during pregnancy and the first two years of life.

Currently, only a small number of farmers are practicing aquaculture in Tonkolili, and those that do often have low yields. Farmers have poor access to quality inputs,
limited access to credit and limited market opportunities to sell their harvests. Supporting smallholder farmers in Tonkolili to farm fish as part of profit-oriented agribusinesses has significant potential to raise smallholder incomes, create new employment opportunities, improve household nutrition through greater access to fresh fish, and reduce dependence on marine fisheries.

**Project components**

The project has six components, informed by a 15-month integrated aquaculture-agriculture pilot project (July 2015–September 2016) and found to be effective strategies for scaling up aquaculture production in Tonkolili District.

**Test pro-poor business models to promote aquaculture as a profitable and sustainable agribusiness to increase fish production and employment**

The project is designing and testing pro-poor business models for small-scale tilapia farming including fish seed and feed supply and grow-out farming. Key activities include raising awareness about investment needs, returns on investments, guarantee systems and repayment controls, and organizing farmers into cluster farmer groups—an essential component to develop a market-oriented approach. Testing of business models will be carried out through cluster farmer groups with private sector participation.

**Improve input supply including private sector participation**

Inconsistent and short supply of quality fish seed has led to abandoned and/or inconsistent operation of aquaculture ponds and low yields resulting in poor (and thus unreliable) production levels. These issues are being addressed by: 1) increasing on-farm fish breeding and feed preparation within the cluster farmer groups; 2) facilitating private sector participation in feed and fingerling production utilizing state fish farms through a private-public partnership or lease agreement; and 3) promoting selected agribusiness centers (ABC) in Tonkolili District and the West Africa Rice Company (WARC) to begin feed production businesses.

**Develop strategies for markets and market linkages for fish farmers and facilitate market access**

The project is conducting research and collaborating with private sector buyers and partners to: 1) determine the factors influencing small-scale fish farmers to participate in the marketing of and available markets for their produce; 2) develop strategies to link farmers to local as well as distant markets; 3) facilitate linking to markets; and 4) develop on-farm preservation techniques and primary processing techniques to delay fish from deteriorating in quality.

**Contribute toward behavior change communication to increase fish consumption and improve processing and hygiene along the value chain**

The project is collaborating with Helen Keller International and other partners to: 1) review existing social and behavior change communication (SBCC) materials on fish consumption and food preferences within the district, and provide recommendations on gaps to be addressed; 2) develop, test and produce SBCC materials on fish consumption targeting both community members and value chain actors; 3) develop key messages to improve processing and hygiene along the value chain; and 4) develop, test and promote fish-based recipes.

**Capacity building of actors to develop aquaculture value chain**

Transitioning farmers away from subsistence agriculture to profit-oriented production with a market destination requires ensuring adequate access to basic production inputs, microfinance and market-related information. Increasing the capacity of men and women around management practices will lead to higher yields and improved marketing abilities at the time of sale. A functioning aquaculture market sector will also support private investors to develop their technical capacities and help facilitate private-public partnerships.

**Knowledge sharing and learning (KSL)**

The project is facilitating monitoring and evaluation platforms to strengthen stakeholder coordination, collaboration and understanding of aquaculture. Using participatory action research, the project will maximize learning through group-centred reflections on their progress. These focus groups will ensure that project developments come directly from community and stakeholder testimonies.

**Contact**

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