Cultivating Africa’s Future

A dire need for efficient small-scale agriculture

Many smallholder farmers in sub-Saharan Africa struggle to feed themselves while also supplying local markets. They live on unbalanced diets and some go hungry at certain times of the year.

The need to boost small-scale production, for farmers’ own consumption and for sale, will only grow. Sub-Saharan Africa’s population is projected to reach 1.5 billion by 2050. To feed this growing number of people, the region will need to increase its 2006 food production levels by 360%. Small holdings are key to meeting this challenge as they account for about 80% of farms in the region and directly employ more than 175 million people.

Investments in research to support Africa’s smallholder producers, especially women, can play a major role in improving food and nutrition security and reducing poverty. Youth also stand ready to contribute to these goals. The region has a growing population of educated unemployed or underemployed youth who can help transform the agriculture sector through profitable entrepreneurship.

Cultivate Africa’s Future (CultiAF), a four-year, CA$15 million fund, addresses these pressing problems and opportunities. CultiAF supports applied research to improve long-term food security in East and Southern Africa. The Fund is a joint program of the Australian International Food Security Research Centre—part of the Australian Centre for International Agricultural Research—and Canada’s International Development Research Centre.

CultiAF objectives

To increase productivity and reduce post-harvest losses for improved food and nutrition security in Eastern and Southern Africa by:

- supporting innovative, complementary, applied research on post-harvest systems, nutrition, and sustainable water use
- identifying innovations and mechanisms for scaling up the use of the most promising research results
- supporting and contributing to the development of national and regional agricultural and food security policies and programs

CultiAF focuses on three areas that are critical for transforming the agricultural sector:

- improving post-harvest systems to reduce losses
- strengthening the links between agriculture and nutrition
- improving agricultural water management

These areas have been recognized by the African Union as key targets under the Comprehensive Africa Agriculture Development Programme.

Tackling post-harvest losses

Reducing post-harvest losses is a critical element for improving food security. A recent report by the World Bank estimates that Africa loses US$4 billion worth of grain through post-harvest loss every year, enough to feed 48 million people. CultiAF is supporting research to identify and test new and effective ways of reducing post-harvest losses while increasing returns to producers. The focus of the CultiAF projects focus on neglected sectors such as fisheries and legumes.

Improving nutrition

The persistence of malnutrition despite the successes in increasing agricultural production is a global concern. Increased food production improves the availability of food, but by itself does little to ensure that poor and vulnerable people have access to the food that is produced and enjoy enough variety to meet their nutritional requirements. CultiAF is supporting research to strengthen agriculture’s contribution to nutrition and health, including research on diverse and nutrient-dense foods, women’s empowerment, nutrition education, and reducing post-harvest losses.

Sustainable water use

Poor water availability, access, and management are key contributing factors to sub-Saharan Africa’s low agricultural productivity. Efficient management of water resources for agriculture and fisheries is critical. CultiAF is supporting research for more efficient agriculture and fisheries making the best use of the scarce water resources available.
Cultivate Africa’s Future (CultiAF) Projects

CultiAF is funding seven projects in five countries of East and Southern Africa—Kenya, Malawi, Uganda, Zambia, and Zimbabwe. Selected through a transparent and rigorous competitive process, these projects meet high standards of scientific excellence in addressing many aspects of food security. Two of the projects support the research activities in the five countries by focusing on business opportunities for youth and communication.

1. **Improving fish post-harvest management and marketing in Malawi and Zambia**

In Zambia and Malawi, researchers are evaluating post-harvest fish processing practices to improve their effectiveness, reduce losses, and promote greater equity among the men and women who work in the fish industry.

**Implementing partners:** Ministry of Agriculture and Livestock, Zambia; University of Zambia; and University of Malawi.

**Other partners:** WorldFish and Nono Enterprises

**Countries:** Malawi and Zambia

**Funding:** CA$1,596,900

**Duration:** October 2014 – April 2017

2. **Reducing maize-based aflatoxin contamination and exposure in Zimbabwe**

In collaboration with government and the private sector in Zimbabwe, researchers are addressing the dangers posed by aflatoxins. These naturally occurring toxic substances, produced by fungi on maize, impair development in early childhood and have other serious impacts on human health. Research will determine whether alternative storage technologies and community education can reduce aflatoxin contamination in maize and thereby reduce human exposure, particularly in young children.

**Implementing partners:** Action Contre la Faim, France and the University of Zimbabwe.

**Other partners:** International Maize and Wheat Improvement Centre, Mexico; Zimbabwe’s Ministry of Agriculture, Mechanisation and Irrigation Development; Zimbabwe’s Ministry of Health and Child Care; and local small- and medium-sized enterprises

**Country:** Zimbabwe

**Funding:** CA$2,055,600

**Duration:** October 2014 – March 2017

3. **Integrating insects in poultry and fish feeds in Kenya and Uganda**

In Kenya and Uganda, researchers are testing the feasibility of using insects rather than soybeans and fish meal for feeding poultry and fish. The switch will help to reduce costs for small-scale producers and redirect food crops currently used as livestock feed toward human consumption.

**Implementing partners:** International Centre for Insect Physiology and Ecology, Kenya, and Makerere University, Uganda.

**Other partners:** Egerton University, Kenya; Sanergy Ltd, Kenya; and University of Nairobi, Kenya.

**Countries:** Kenya and Uganda

**Funding:** CA$2,349,600

**Duration:** October 2014 – March 2017

4. **Better processing and marketing of healthy fish products in Malawi**

In Malawi, fishing is a crucial source of employment and nutrition, yet 40% of fish are lost during processing. The research team is adapting and testing solar fish-drying tents to reduce losses, and developing new business models for fish processors. Under the project, cooperative groups of women fish processors are accessing markets, including a national supermarket chain.

**Implementing partners:** University of Malawi

**Other partners:** Department of Fisheries, Malawi and WorldFish Centre.

**Country:** Malawi

**Funding:** CA$1,231,000

**Duration:** October 2014 – April 2017

5. **Precooked beans for food, nutrition, and income in Kenya and Uganda**

Kenyan and Ugandan researchers will boost food security and livelihoods by improving the processing of beans. Their research on the production and marketing chain for precooked beans aims to increase bean consumption, reduce women’s time spent on household cooking, and create a larger, more lucrative market for bean farmers.

**Implementing partners:** National Agricultural Research Organisation, Uganda and Kenya Agricultural and Livestock Research Organisation.

**Other partners:** Community Enterprises Development Organisation, Uganda; Lasting Solutions, Uganda; Smart Logistics, Kenya; International Centre for Tropical Agriculture, Colombia; Fresh Del Monte, Kenya.

**Countries:** Kenya and Uganda

**Funding:** CA$2,646,200

**Duration:** October 2014 – March 2017
CultiAF is funding research to identify and field test new business models for taking innovations to scale and supporting Africa’s youth to engage actively in profitable agribusinesses. This research cuts across different products and countries. The research will generate novel, creative, and bold business models to guide current and aspiring youth entrepreneurs in developing profitable agri-business enterprises.

**Countries:** Kenya, Malawi, Uganda, Zambia, and Zimbabwe  
**Funding:** CA$800,000  
**Duration:** June 2015 – March 2017

This project will test different models to communicate and disseminate research results and products. The teams will use radio and other forms of communication to reach multiple audiences to achieve impact at a large scale. Research teams will train in communicating their research results to make them accessible to different audiences, including producers, policymakers, and the wider scientific community.

**Countries:** Kenya, Malawi, Uganda, Zambia, and Zimbabwe  
**Funding:** CA$400,000  
**Duration:** June 2015 – March 2017
Focusing on practical and scalable solutions

CultiAF focuses on applied research that produces practical, lasting solutions that are economically viable, socially acceptable, and environmentally sustainable. Research topics include value-added products, post-harvest storage technologies, processing technologies, and livestock feed, among others. Projects are engaging the private sector, young entrepreneurs, and policymakers to develop products and business plans that can take these innovations to scale.

Innovations to boost women’s productivity, income, and nutrition

CultiAF funds research that responds to the needs of men, women, and young people and has the potential to transform inequitable gender relations. CultiAF research focuses on crops and livestock that are important for women: fisheries, poultry production, beans, and maize. Research activities are based on strong gender and social analysis. They address inequalities in underlying social norms and in men’s and women’s ability to access and manage resources and make decisions. Technologies and products being tested, such as pre-cooked beans and solar dryers, have the potential to increase women’s income and reduce the workload and drudgery involved in producing and processing food.

Engaging youth in agribusiness

The agricultural sector could provide income-generating opportunities for rural and urban youth. It would also benefit from the resourcefulness, technological savviness, and organizational skills of young people. CultiAF projects are working with youth to identify and field-test new business models for taking innovations to scale, and are supporting them to actively engage in profitable agribusinesses.

Private sector engagement

CultiAF-supported researchers are engaging with the private sector early in project design and forging innovative partnerships with the private sector that provide insights on markets and product development. Similar to their work with youth, the research teams are developing and testing innovative business models to move the results of the research to a large scale.

MULTI-FUNDER INITIATIVE

The Cultivate Africa’s Future Fund (CultiAF) is a joint program of the Australian International Food Security Research Centre of the Australian Centre for International Agricultural Research and Canada’s International Development Research Centre. CultiAF supports research to achieve long-term food security in Eastern and Southern Africa.