FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

SNAPSHOT: FEED THE FUTURE INNOVATION LABS

Feed the Future, the U.S. Government's global hunger and food security initiative, is pairing American ingenuity and expertise with some of the best and brightest minds across the globe through its 24 Feed the Future Innovation Labs. A unique network supported by over 70 top U.S. colleges and universities along with many partner country research and educational institutions, the Innovation Labs are on the cutting edge of efforts to research, develop and take to scale effective technologies that address current and future challenges posed by weather variability and the need to feed a growing global population with safe and nutritious feed. The Feed the Future Innovation Labs also provide short- and long-term training to support the sustainability of these efforts while training the next generation of scientists.

Below is a brief description of the 24 Feed the Future Innovation Labs, with lead university and individual contact information highlighted. For more information about the Feed the Future Innovation Labs, please contact clevin@usaid.gov and visit http://bit.ly/FeedtheFutureInnovationLabs.

Feed the Future Innovation Lab for Applied Wheat Genomics
Lead University: **Kansas State University**
This Innovation Lab develops heat-tolerant, high-yielding, farmer-accepted wheat varieties through local characterization and breeding networks, using the most advanced genomic tools.
Focus Countries: Bangladesh, India, Pakistan
Director: Jesse Poland, jpoland@ksu.edu • *Website:* www.k-state.edu/wheat-innovation-lab/

Feed the Future Innovation Lab for Aquaculture and Fisheries
Lead University: **Oregon State University**
This Innovation Lab develops comprehensive, sustainable, ecologically compatible, and socially viable aquaculture and innovative fisheries management systems that contribute to poverty alleviation and food security.
Focus Countries: Bangladesh, Cambodia, Ghana, Kenya, Nepal, Philippines, Tanzania, Uganda, Vietnam
Director: Hillary Egna, hillary.egna@oregonstate.edu • *Website:* http://aquafishcrsp.oregonstate.edu/

Feed the Future Innovation Lab for Assets and Market Access
Lead University: **University of California, Davis**
This Innovation Lab conducts policy-relevant research on how market function and access promotes (or hinders) asset accumulation, competitiveness and the capacity of smallholder farmers and the rural poor to manage economic and climate-related shocks.
Focus Countries: Bangladesh, Burkina Faso, Dominican Republic, Ghana, Haiti, Kenya, Malawi, Mexico, Nepal, Tanzania, Senegal, Uganda
Director: Michael Carter, mrcarter@primal.ucdavis.edu • *Website:* http://basis.ucdavis.edu/

Feed the Future Innovation Lab for Climate-Resilient Beans

Lead University: **The Pennsylvania State University**

This Innovation Lab integrates new scientific technologies with traditional breeding approaches to develop heat- and drought-tolerant, high-yielding, farmer-accepted bean varieties.

Focus Countries: Colombia, Honduras, Malawi, Mozambique, Tanzania, Zambia

Director: Jonathan Lynch, jpl4@psu.edu • *Website:* http://plantscience.psu.edu/research/labs/roots/projects/usaid-crb

Feed the Future Innovation Lab for Climate-Resilient Chickpea

Lead University: **University of California, Davis**

This Innovation Lab brings drought and heat tolerance from wild chickpea relatives to elite chickpea lines used for production in Ethiopia while increasing the capacity of Ethiopian chickpea researchers in molecular breeding and variety characterization.

Focus Countries: Ethiopia, India, Turkey

Director: Doug Cook, drcook@ucdavis.edu • *Website:* http://chickpealab.ucdavis.edu/

Feed the Future Innovation Lab for Climate-Resilient Cowpea

Lead University: **University of California, Riverside**

This Innovation Lab develops and applies advanced genomic tools to cowpea breeding to increase yield, drought tolerance and fungal resistance in cowpea (or black-eyed peas), a common nutritious staple in African countries.

Focus Countries: Burkina Faso, Ghana, Nigeria, Senegal

Director: Timothy Close, timothy.close@ucr.edu

Feed the Future Innovation Lab for Climate-Resilient Millet

Lead University: **University of California, Davis**

This Innovation Lab is harnessing genomic and advanced molecular tools and proprietary technologies for climate resilience from U.S.-based company Arcadia Biosciences to develop heat- and drought-tolerant millet varieties for smallholder farmers.

Focus Countries: India, Mali, Nigeria

Director: Eduardo Blumwald, eblumwald@ucdavis.edu

Feed the Future Innovation Lab for Climate-Resilient Sorghum

Lead University: **University of Georgia**

This Innovation Lab is using new scientific tools to develop drought- and heat-tolerant varieties of sorghum, a staple grain in many countries, which builds climate resilience into sorghum production systems. The Lab is also exploring new approaches to production through the development of perennial sorghum.

Focus Countries: Ethiopia, India, Kenya, Mali, South Africa

Director: Andrew Paterson, paterson@uga.edu

Feed the Future Innovation Lab for Climate-Resilient Wheat

Lead University: **Washington State University**

By using conventional breeding approaches, improved breeding tools, and by leveraging genomic resources, this Innovation Lab is helping develop new wheat varieties that can withstand heat stress in the Indo-Gangetic plains.

Focus Countries: Bangladesh, India

Director: Kulvinder Gill, ksgill@wsu.edu

Feed the Future Innovation Lab for Food Processing and Post-Harvest Handling

Lead University: **Purdue University**

This Innovation Lab is working to increase access to safe and nutritious foods along the value chain by improving the drying and storage capacity of smallholder farmers and expanding market opportunities through diversified processed products that address quality in the market and nutritional needs.

Focus Countries: Kenya, Senegal

Director: Betty Bugusu, bbugusu@purdue.edu • *Website:* https://ag.purdue.edu/ipia/fpl

Feed the Future Innovation Lab for Food Security Policy

Lead University: **Michigan State University**

This Innovation Lab is helping to establish policies conducive to market-led, smallholder-focused, inclusive agricultural growth and food security by focusing on country-level and global research, capacity building and support to donor food policy work.

Focus Countries: Burma, Malawi, Mali, Nigeria, Senegal, Tanzania; Africa Great Lakes, West Africa regions

Director: Mywish Maredia, maredia@msu.edu • *Website:* http://fsg.afre.msu.edu/fsp/index.htm

Feed the Future Innovation Lab for Genomics to Improve Poultry

Lead University: **University of California, Davis**

This Innovation Lab is working to reduce limitations to chicken production by applying advanced genetics and genomic approaches to enhance innate resistance to Newcastle disease and tolerance to heat stress in chickens in places where Newcastle disease and hot climates are prevalent.

Focus Countries: Ghana, Tanzania

Director: Huaijun Zhou, hzhou@ucdavis.edu • *Website:* http://gip.ucdavis.edu/

Feed the Future Innovation Lab for Grain Legumes

Lead University: **Michigan State University**

This Innovation Lab is developing improved grain legume varieties that are resistant to climatic stresses and disease and insect threats, enhancing soil and pest management practices, and boosting the nutritional and health status of women and young children by supporting improved access to grain legumes.

Focus Countries: Benin, Burkina Faso, Ghana, Guatemala, Haiti, Honduras, Malawi, Mozambique, Niger, Senegal, Uganda, Zambia

Director: Irvin Widders, widders@anr.msu.edu • *Website:* http://legumelab.msu.edu/

Feed the Future Innovation Lab for Horticulture

Lead University: **University of California, Davis**

This Innovation Lab is improving smallholder farmers' abilities to grow, sell and consume nutritious, high-value fruit and vegetable crops by targeting innovative technologies including postharvest handling, increasing research capacity, improving access to information and markets, and ensuring gender equity.

Focus Countries: Bangladesh, Cambodia, Ghana, Guatemala, Honduras, Kenya, Nepal, Rwanda, Tanzania, Uganda, Zambia

Director: Elizabeth Mitcham, ejmitcham@ucdavis.edu • *Website:* http://horticulture.ucdavis.edu/

Feed the Future Innovation Lab for Integrated Pest Management

Lead University: **Virginia Polytechnic Institute and State University**

This Innovation Lab is supporting improved, environmentally sustainable yields for smallholder farmers through the implementation of participatory, integrated pest management programs (IPM) in horticultural and grain crops using centers of excellence for dissemination of best IPM practices and scalable solutions.

Focus Countries: Bangladesh, Cambodia, Ethiopia, Kenya, Nepal, Tanzania, Vietnam

Director: Rangaswamy "Muni" Muniappan, rmuni@vt.edu • *Website:* http://www.oired.vt.edu/ipmil/

Feed the Future Innovation Lab for Livestock Systems

Lead University: **University of Florida**

This Innovation Lab is working to improve livestock systems by addressing key issues related to livestock value chains, disease management, animal source foods, and enabling policies that drive sustainable local and national agricultural productivity and combat food insecurity and undernutrition.

Focus Countries: Burkina Faso, Cambodia, Ethiopia, Nepal, Niger, Rwanda, Uganda

Director: Adegbola Adesogan, adesogan@ufl.edu • *Website:* http://blogs.ifas.ufl.edu/livestocksystems

Feed the Future Innovation Lab for Nutrition

Lead University: **Tufts University**

This Innovation Lab is identifying ways that policy and program interventions, particularly those that involve agriculture, can most effectively achieve large-scale improvements for maternal and child nutrition.

Focus Countries: Bangladesh, Malawi, Nepal, Uganda

Director: Patrick Webb, patrick.webb@tufts.edu • *Website:* http://www.nutritioninnovationlab.org/

Feed the Future Innovation Lab for Peanut Productivity and Mycotoxin Control

Lead University: **University of Georgia**

This Innovation Lab is contributing to increased productivity and profitability of peanut production and improving food safety by mitigating the negative impacts of contamination of peanut and other crops from toxins produced by soil-borne fungal pathogens (known as "mycotoxins").

Focus Countries: Burkina Faso, Ghana, Haiti, Malawi, Mozambique, Niger, Senegal, Uganda, Zambia

Director: Dave Hoisington, davehois@uga.edu • *Website:* http://pmil.caes.uga.edu/

Feed the Future Innovation Lab for the Reduction of Post-Harvest Loss

Lead University: **Kansas State University**

This Innovation Lab is working to reduce post-harvest loss and food waste of durable staple crops (grains, oilseeds, legumes, root crops and seeds) and related processed products by enabling smallholder farmers, cooperatives, agribusinesses, NGOs and other stakeholder partners improve moisture measurement, drying and storage techniques, insect and mycotoxin prevention, and market-based value chain access.

Focus Countries: Bangladesh, Ethiopia, Ghana, Guatemala

Director: Jagger Harvey jjharvey@ksu.edu • *Website:* http://www.k-state.edu/phl/

Feed the Future Innovation Lab for Rift Valley Fever Control in Agriculture

Lead University: **University of Texas, El Paso**

To help boost livestock productivity, this Innovation Lab is developing a vaccine against Rift Valley Fever, a highly infectious and deadly cattle disease, fine-tuning a novel, needle-free injection device to deliver the vaccine. The Innovation Lab is also designing a diagnostic test to help people differentiate between infected and vaccinated animals—information that is critical for exports and trade.

Focus Country: Tanzania

Director: George Bettinger, gebettinger@utep.edu

Website: http://research.utep.edu/Default.aspx?alias=research.utep.edu/riftvalleyfeverinnovationlab

Feed the Future Innovation Lab for Small-Scale Irrigation

Lead University: **Texas A&M University**

This Innovation Lab is identifying promising small-scale irrigation technologies, practices and strategies at the farm level that can improve agricultural productivity and reduce farmer risk during the dry season.

Focus Countries: Ethiopia, Ghana, Tanzania

Director: Neville Clarke, n-clarke@tamu.edu • *Website:* http://ilssi.tamu.edu/

Feed the Future Innovation Lab for Sorghum and Millet

Lead University: **Kansas State University**

This Innovation Lab is advancing biophysical and social sciences that contribute technologies and knowledge toward the enhancement of adaptation, resilience and profitability of sorghum- and millet-based production systems and value chains.

Focus Countries: Burkina Faso, Ethiopia, Mali, Niger, Senegal

Director: Timothy Dalton, tdalton@ksu.edu • *Website:* http://www.k-state.edu/smil/

Feed the Future Innovation Lab for Soybean Value Chain Research

Lead University: **University of Illinois**

This Innovation Lab is contributing to increased productivity of smallholder soy farmers by advancing improved varieties, supporting local best production practices, enhancing processing technologies, and promoting development of the soy value chain.

Focus Countries: Ethiopia, Ghana, Malawi, Mozambique, Zambia

Director: Peter Goldsmith, pgoldsmi@illinois.edu • *Website:* http://soybeaninnovationlab.illinois.edu/

Feed the Future Innovation Lab for Sustainable Intensification

Lead University: **Kansas State University**

This Innovation Lab focuses on integrated farming systems research and technologies to sustainably increase agricultural productivity and income that provide food security and nutrition to smallholder farmers.

Focus Countries: Bangladesh, Burkina Faso, Cambodia, Ethiopia, Senegal, Tanzania

Director: Vara Prasad, vara@ksu.edu • *Website:* www.k-state.edu/siil