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

FEED THE FUTURE INNOVATION LAB FOR LEGUME SYSTEMS RESEARCH

November 2021

The Feed the Future Innovation Lab for Legume Systems Research fosters dynamic, profitable, and environmentally sustainable approaches that contribute to resilience, productivity, and better nutrition and economic opportunities. The lab is managed by Michigan State University.

From the Management Office

Legume Systems Innovation Lab Hosts Workshop to Examine the Future of Lentil Systems in Nepal

Female farmers removing weeds in a lentil field in Khajura, Banke district, Nepal. Photo courtesy of Bandana Pradhan, CIMMYT.

Lentils are an important crop in Nepal, providing good nutritional values and an affordable source of protein. However, lentil farming in Nepal faces challenges, especially in wet winters, leading to low gains in yield despite development efforts to prioritize lentil production.

Innovative solutions are needed and opportunities exist to strengthen the entire lentil value chain across Nepal.

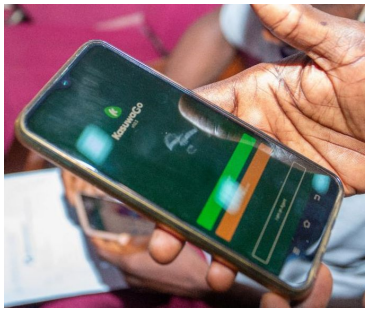
Please join the Feed the Future Innovation Lab for Legume Systems Research, in partnership with the Nepal USAID Mission, for a two-day exploration of lentil systems in Nepal. The workshop will take place **December 15 & 16** from 4:45-7:45 pm Nepal (UTC+5:45) / 6:00-9:00 am Washington, DC (EST).

This interactive workshop will feature global and local experts delving into the current state of lentil systems in Nepal, exploring current and future global lentil systems innovations, and seeking new opportunities to strengthen this vital crop. A special thanks to Nepal based collaborators at Nepal Ministry of Agriculture and Livestock Development, National Grain Legume Research Program, and CIMMYT for their valuable insights in planning the technical program.

Register for workshop

From the Field

The Legume Systems Innovation Lab Funds Second Phase of Project, *Promoting Trade Integration in Regional Legume Markets with Mobile Technology*



Farmers in West Africa must often make long and difficult treks to distant markets to sell their cowpeas and grains to wholesale buyers and consumers. A new virtual mobile application, KasuwaGo, recently launched in Nigeria works to move the market process to a 100% virtual format. This application not only saves buyers and sellers time and money it also provides a safe and secure trading environment.

The project, *Promoting Trade Integration in Regional Legume Markets with Mobile Technology*, is led by Dr. Michael Olabisi, Assistant Professor in the College of Agriculture and Natural Resources at Michigan State University.

The first phase of the project involved research to understand what problems farmers, sellers, and traders face when conducting business. The mobile application, KasuwaGo was then designed to address these trade problems. The app was successfully launched in Nigeria. The completion of these activities largely concluded work of phase one of the project.

Phase two, which was recently funded by the Legume Systems Innovation Lab will continue to enhance the application and work to achieve additional objectives. These objectives include: (1) extend the deployment of the app within Nigeria and to roll out the app in Niger; (2) initiate research and evaluation activities, to capture impacts and lessons learned from app adoption and use of the virtual marketplace; (3) provide further opportunities for training and capacity development; and (4) address cross-cutting themes related to gender and youth.

The rollout to Nigeria's northern neighbor Niger, will link large markets in the dry-land regions of West Africa, specifically, the cities of Kano and Ilorin in Nigeria and Niamey in Niger. These main cities are hubs linking agricultural producers throughout the region. Phase two rollout after the initial launch activities from phase one will follow a research design that allows the project to gain additional insight into how value chain actors adopt and use new (mobile) technologies.

The project also plans a robust research and evaluation program. A few sub-hypotheses to be explored include, if trading across language barriers can increase if facilitated by an electronic messaging platform with translation tools; if the average distance between suppliers and buyers will increase as they use the virtual marketplace; and if greater trade integration will lower price volatility in the aggregate.

New Legume Lab Project Looks to Transform Bean Seed Systems in Malawi

One of the key challenges to bean seed production and supply systems in Malawi is lack of value chain coordination starting from the market demand for grain that influence demand for certified, basic, and breeder seed, and ultimately feeding into the breeding pipeline. The lack of structured planning and interactions among value chain actors results in uninformed seed players on the value of the varieties and the inability to anticipate and plan for production and marketing activities.

Subsequently, farmers do not have access to quality seed of their preferred varieties through the formal sector. More often farmers use part of their saved grain as seed, resulting in lower yields. As a result of demand led breeding, bean is increasingly becoming a commercialized crop with grain offtakers interested in specific varieties.

However, the offtakers often are not connected to certified seed suppliers and breeding pipeline, and as a result, they source low quality grain from farmers at low prices, which discourage farmers to invest in the use of certified seed.

To address these challenges, a new project titled, *Transforming Seed Systems to Respond to Bean Variety Demand Through Multistakeholder Platforms in Malawi*, uses an approach where the market pull incentivizes farmers to use improved consumer preferred varieties which drives up the demand for certified seed. This demand attracts seed entrepreneurs to invest in the seed supply chain. This can be achieved if the offtakers grain demand is deliberately synchronized/coordinated with seed production & supply to respond to farmers' seed demand (varieties and quantity).

This system requires coordination through a private sector led multi stakeholder platform (MSP) bringing together all participating value chain actors and by integrating the seed system in the MSP. The study aims to test how a market pull for demanded varieties through the MSP or without MSP context can stimulate farmers' interest and purchase of certified bean seed. Private producers of certified seed will then respond to seed demand from farmers, by investing to increase quantity and quality of seed supplied, the number of farmers accessing seed, and ultimately increase bean productivity and production.

The project is led by Dr. Jean Claude Rubyogo, Alliance of Bioversity International and CIAT. Collaborating institutions include LUANAR, Malawi; DARS-Chitedze, Malawi; PABRA-SABRN, Malawi; and Virginia Tech, U.S.

Learn more on this project

In the News

Stories, blogs, papers & publications by legume lab researchers and their colleagues

Beyond Grain: The Potential of Cowpea in Local Markets of Mali

by Mamadou Sissoko, Veronique Theriault, and Melinda Smale

In addition to being well adapted to the climatic conditions of Mali, cowpea has the potential to meet the needs of consumers who are looking for food products that are nutritious, diverse and easy to prepare. Despite its potential, little research or policy has focused on cowpea and, in particular, its processing and commercialization components.

The purpose of this study is to assess the development potential of cowpea beyond grain in local markets in Mali, including: (1) identifying different types of vendors and different types of cowpea products sold; (2) examining the roles of different types of cowpea vendors and their relationships; (3) quantifying the profit margins of different vendors; and (4) discussing constraints and opportunities to develop the cowpea value chain in Mali.

To do this, information on cowpea products was collected from 487 vendors in 26 local markets. Our results show that the cowpea value chain in Mali includes several types of vendors in local markets, such as processed product retailers, fresh leaf retailers and fodder retailers in addition to wholesalers, grain collectors and retailers. Women are clearly at the heart of grain processing activities and the marketing of processed products as well as fresh leaves. The marketing of cooked cowpeas offers retailers higher margin rates compared to beignets (fritters) and pancakes.

Grain sellers, mostly men, have lower margins, but sell larger quantities. Their activities are therefore more profitable than those of retailers of processed products. Given the great potential of cowpea processing and marketing in Mali, this study recommends that policy makers include cowpea in their policy to support agricultural diversification.

Read the paper

Dr. Veronique Theriault from Michigan State University leads the project, "Quantifying the Scale and Scope of Nutritious Cowpea Products in Local Markets". Photo on left depicting cowpea in Mali, courtesy of Mamadou Sissoko.

Legume Lab Associate Award, SAWBO *RAPID,* collaborates with the Feed the Future Innovation Lab for Genomics to Improve Poultry to Produce Animation on Newcastle Disease

In rural Africa, sustenance farmers rely on their small chicken flocks for food and income. However, Newcastle disease often decimates entire flocks swiftly, sometimes within days. It is a virulent disease that affects the respiratory, nervous, and digestive systems of birds and poultry. Once contracted, the virus most often leads to the death of the bird.

Scientific Animations Without Borders (SAWBO), through the Feed the Future SAWBO Responsive Adaptive Participatory Information Dissemination (SAWBO *RAPID*) project has released the animation, How to Protect Your Chickens from Newcastle Disease, to aid smallholder farmers in learning simple steps to prevent virus infection and help protect their flocks against the disease.

The animation was created in collaboration with the Feed the Future Innovation Lab for Genomics to Improve Poultry managed by the University of California – Davis. The Genomics to Improve Poultry project team proposed the animation on Newcastle disease after participating in a SAWBO *RAPID* scoping effort held across Innovation Labs to determine available innovations that could be used to help people remain resilient in the COVID-19 crisis.

Read More

Featured Legume of the Month

RED CARGAMANTO BEANS

In our April 2021 newsletter we featured the Cranberry bean. This month we feature the Red Cargamanto bean which is very similar to the Cranberry bean.

Red Cargamanto is a favorite in Columbia and their creamy texture is full of flavor. They are high in fiber and provide a good source of iron and potassium. Try our featured recipe below, we're sure it will be a family favorite!

Cooking with Red Cargamanto Beans...
BEAN CASSEROLE CARGAMANTO

This casserole, featured on the Pulses.org website is full of flavor and texture.

Cook cargamanto beans with tomatoes, red bell pepper, and onion until they create a soupy sauce. Add in sweet corn and heat through. Transfer to individual bowls and top with bacon, avocado and ripe fried diced bananas.

Get recipe here

For More Information on the
Feed the Future Innovation Lab for Legume Systems Research

Visit our website

This newsletter is made possible by the generous support of the American people through the United States Agency for International Development (USAID) under the Feed the Future initiative. The contents are the responsibility of Michigan State University and do not necessarily reflect the views of USAID or the United States Government.

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