Feed the Future Innovation Lab for Legume Systems Research

Barry Pittendrigh, Ph.D.

Director

April 29, 2018

BACKGROUND

Feed the Future was established as the US government's Global Hunger and Food Security Initiative.

Under that Initiative, US Agency for International Development (USAID) developed a set of Innovation Labs for Collaborative Research.

The 2016 Global Food Security Act (GFSA) reconfirmed the importance of this effort and as of January 2017, there were 24 Innovation Labs engaging more than 70 top US universities with their collaborators across the globe.

BACKGROUND (CONTINUED)

The Feed the Future Innovation Lab for Legume Systems Research is a five-year research and capacity building program (2018–2023) funded by USAID that focuses on grain legumes, including common bean in Central America and cowpea in West Africa.

Building upon the scientific advances and technological achievements of the Bean/Cowpea and Dry Grain Pulses Collaborative Research Support Programs and the Feed the Future Innovation Lab for Legume Systems Research, the program responds to the agriculture development priorities and objectives set forth in the 2016 GFSA.

Feed the Future Innovation Lab for Legume Systems Research

- The Feed the Future Innovation Lab for Legume Systems Research is strategically positioned to fully support and contribute to GFSA objectives and research goals.

- Legumes are a nutrient-dense staple crop that have multifunctional roles in smallholder farm systems in developing countries, including food and nutrition security, generating needed income, and contributing to the sustainability of farm systems.

- The Feed the Future Innovation Lab for Legume Systems Research research, technology dissemination, and capacity-building strategies that not only build upon the technical advances achieved during its previous award periods but its ongoing commitment to exploiting opportunities to make substantial new technological gains to improve the cropping and market systems for legumes in developing countries.

Feed the Future Innovation Lab for Legume Systems Research

AREAS OF INQUIRY

Integration of legumes into sustainable smallholder farming systems and agricultural landscapes

Integration of legumes within local and regional market systems

Analysis of sociocultural and/or economic motivators or barriers to legume utilization at various stages and scales within market systems

Feed the Future Innovation Lab for Legume Systems Research

ACHIEVING OBJECTIVES

To fulfill these objectives, the Feed the Future Innovation Lab for Legume Systems Research will focus on opportunities that address the unique needs of women and youth, ensure greater resilience of people and systems under stress and shocks and contribute to the development of human and institutional capacity for a sustainable agricultural innovation system.

Systems research will entail looking at new opportunities to incorporate legume tree species and lesser known legumes into the cropping systems of smallholders, to improve productivity and to enhance resilience to drought, pests and diseases, and other threats.

Feed the Future Innovation Lab for Legume Systems Research

GEOGRAPHIC FOCUS

- Guatemala and Honduras are the Legume Systems Innovation Lab priority countries in Central America.

- The Legume Systems Innovation Lab will take a regional approach in West Africa, based in Senegal, including Feed the Future priority countries of Niger, Nigeria, Ghana1, and Mali, as well as Feed the Future aligned countries such as Burkina Faso.

- Within those countries, research will prioritize work in USAID's Feed the Future designated Zones of Influence (ZOI) in each country.

FOCAL CROPS

- The Legume Systems Innovation Lab will focus primarily on two major crops: common bean (*Phaseolus vulgaris* L.) in Central America and cowpea (*Vigna unguiculata* W.) in West Africa.

- These crops have a critical potential for integration with other legumes and increased crop resiliency and food security.

- The ME welcomes research with other legume crops and legume tree species systems as part of the overall research portfolio.

CROSS-CUTTING THEMES

- Gender Equality, Equity, and Inclusion
- Youth Inclusion
- Nutrition
- Resilience
- Human and Institutional Capacity Development (HICD)

Feed the Future Innovation Lab for Legume Systems Research

CAPACITY BUILDING

- Human and Institutional Capacity Development (HICD) includes strengthening the ability of individuals, institutions, and systems to respond to environmental factors in ways that improve the achievement of desired outcomes.

- Injecting new knowledge, skills, or technology into a system works best when there are complementary efforts to ensure that the institutions are prepared to absorb, adopt, and adapt resources.

- The Legume Systems Innovation Lab sub-awarded projects are required to dedicate resources to capacity development, and hence most program HICD funding are through the projects.

Feed the Future Innovation Lab for Legume Systems Research

TO FULFILL THESE OBJECTIVES

The Feed the Future Innovation Lab for Legume Systems Research will focus on opportunities that address the unique needs of women and youth, ensure greater resilience of people and systems under stress and shocks and contribute to the development of human and institutional capacity for a sustainable agricultural innovation system.

Systems research will entail looking at new opportunities to incorporate legume tree species and lesser known legumes into the cropping systems of smallholders, to improve productivity and to enhance resilience to drought, pests and diseases, and other threats.

Feed the Future Innovation Lab for Legume Systems Research

TO FULFILL THESE OBJECTIVES (CONTINUED)

Through collaborative projects with scientists at research-intensive agricultural universities, host country government and nongovernmental organizations, and private sector partners, Feed the Future Innovation Lab for Legume Systems Research scientists will take a targeted approach to geographic involvement and focus legume species.

The regions and species were chosen to address US government and USAID Mission needs, leverage the strength of US universities to enhance local capacity and focus the program on legume systems that can best contribute to reaching the strategic objectives of USAID's Global Food Security Strategy.

INITIAL ACTIVITIES PROJECTS

The Legume Systems Research Innovation Lab has awarded initial activity grants.

They were selected based on the quality of their research concepts, relation to the overarching research goals, and the diversity of institutions represented.

Each project proposes a clear result that will be transferred to farmers, policy makers, or other researchers.

Feed the Future Innovation Lab for Legume Systems Research

INITIAL ACTIVITIES

- "Sustainable Insect Pest Management for Cowpea in West Africa" from Dr. M. Tamo of IITA (West Africa)

- "Evaluating spatial resolution of remote sensing imagery to monitor crop growth in legume-based cropping systems" from Dr. Bruno Basso of MSU (Central America and West Africa)

- "Pigeonpea as a test case for scaling in West Africa" from Dr. Sieglinde Snapp of MSU (West Africa)

Feed the Future Innovation Lab for Legume Systems Research

PEST MANAGEMENT FOR COWPEA

- Builds on previous investments

- The project will be collecting data from previous activities to analyze the ecological impact on pod borer populations in Benin and Burkina Faso which can be used to guide large scale releases across the region.

Feed the Future Innovation Lab for Legume Systems Research

INITIAL ACTIVITIES (CONTINUED)

- "Selection and Release of Climate Resilient Common Bean Germplasm for the Highlands and Dry Corridor of Central America" from Dr. Phil McClean, North Dakota State University (In collaboration with ICTA in Guatamala)

- "Enhancing Resilience and Nutrition in the Peanut Basin of Senegal through Increased Integration of Newly Released, Improved Cowpea Varieties" from Dr. Zachary P. Stewart, Kansas State University (West Africa)

- "Measuring Cowpea Consumption" from Dr. Mark Manary, Washington University in St. Louis (West Africa)

Feed the Future Innovation Lab for Legume Systems Research

SELECTION AND RELEASE OF CLIMATE RESILIENT COMMON BEAN GERMPLASM

- Builds on previous investments

- The project has a specific emphasis on ensuring crop improvement efforts are guided by relevant product profiles (varieties with high yield and adaptation to the different crop systems).

Feed the Future Innovation Lab for Legume Systems Research UPCOMING OPPORTUNITIES

- Feed the Future Innovation Lab for Legume Systems Research Announces Request for Concept Notes: Area of Inquiry 1

- The deadline for submission of concept notes is May 20, 2019.

- Area of Inquiry 1: Integration of legumes into sustainable smallholder farming systems and agricultural landscapes

- For more information on eligibility and requirements visit Funding Opportunities on our website or piestar. The concept notes are the first stage, with full proposals requested of a selected subset of finalists.

- Calls for concept notes for AOI2 and AOI3 will be forthcoming.

U.S. GOVERNMENT PARTNERS

Feed the Future Innovation Lab for Legume Systems Research

www. feedthefuture.gov
www.canr.msu.edu/legumelab