



FEED ^{THE} FUTURE

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



Feed the Future Innovation Lab for Legume Systems Research

Annual Global ^{Virtual} Convening
February 16-18, 2021



USAID
FROM THE AMERICAN PEOPLE

MICHIGAN STATE
UNIVERSITY

Table of Contents

Introduction and Overview

Convening Objectives

Opening Remarks

Presentations

Strategy White Paper



From the Director

To say 2020 has been an unprecedented year is an understatement. The Coronavirus impact has been far reaching; the Legume Systems Innovation Lab is no exception. In February 2020, the Lab hosted over 50 stakeholders in Saly, Senegal to share the work of funded projects and contribute to the global strategy for identifying the best technologies for legume system scaling and impact. We had no idea that in a few short weeks the energy of the convening would be drained by COVID-19. We all began a journey, that over a year later, we are still deep within. As I reflect, I am constantly overwhelmed by the resilience and fortitude of our researchers and team members as they find new and innovative ways to keep the important work of the Legume Lab moving forward while keeping themselves and their colleagues safe.

Our Global Convening 2021, originally scheduled to take place on the campus of Michigan State University, transitioned to an all-virtual event and was held February 16-18. The three days we spent together looked a bit different from the previous year's event, but the excitement and energy of the research and innovation was not overshadowed. We are and will, continue to look for opportunities to address nutrition, gender and youth needs, and ensure greater resilience of people and systems under stress and shocks while contributing to the development of human and institutional capacity for a resilient agricultural system.

Regards,
Barry Pittendrigh,
Director, Feed the Future Innovation Lab for Legume Systems Research

Overview

The Feed the Future Innovation Lab for Legume Systems Research is a five-year research capacity building development program managed by Michigan State University that focuses on grain legumes in West and Southern Africa. Legumes are a nutrient-dense staple crop that have multifunctional roles in smallholder farm systems in developing countries including food and nutrition security, generating income, providing livestock feed and fodder, and contributing to the sustainability of soil systems through their nitrogen-fixing capabilities. Cowpea and common bean are the focal crops of the Legume Systems Innovation Lab.

The strength of the Legume Systems Innovation Lab's design lies in its innovative and vibrant research to scaling strategy using a systems approach. Supported projects are diverse in research focus and address both the development and placement of innovative technologies with a thorough understanding of the system they will impact thus leading to successful adoption. Projects are focused on three areas of inquiry (AOI)

- AOI-1 Integration of legumes into sustainable smallholder farming systems and agricultural landscapes
- AOI-2 Integration of legumes within local and regional market systems, including trade
- AOI-3 Analysis of motivators or barriers to legume utilization within social and economic systems

The Legume Systems Innovation Lab is funded by USAID under the Feed the Future Initiative.

Convening Objectives

- Highlight research for donors, advisory panels, external stakeholders and possible scaling partners and cross-project learning and exchange
 - Review and update Strategy White Paper
 - Present work of RRT for projects, donors, advisory panels, external stakeholders and possible scaling partners
 - Share administrative highlights and critical information to project personnel
 - Engage with USAID Missions
 - Cowpea Atlas brainstorming session with project personnel and TMAC
 - Networking
-

Opening Remarks

USAID's Continuing Emphasis on Gender

"USAID continues to place a strong emphasis on gender and gender analysis in everything we do. Please make sure to continue keeping up strong gender analysis in your research and work."

Mr. Daniel Bailey, Agreement Officer Representative, USAID



Michigan State University's Commitment to International Legume Research

"This laboratory has been a really important component and flagship program at MSU for a long, long time. International activity and research around legumes are two very important issues for us."

Dr. Doug Buhler, AgBioResearch Director & Asst. VP of Research College of Agriculture & Natural Resources, Michigan State University

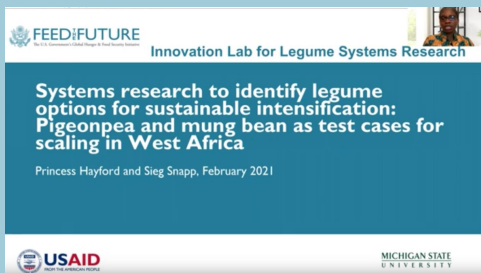
The Scaling of Innovations

"Our goal is for research toward scaling, it's to provide that these innovations that ultimately allow others to scale content and to take what we're doing forward into new systems and take them out to the hands of the people that need them the most for the greatest impact."

Dr. Barry Pittendrigh, Feed the Future Innovation Lab for Legume Systems Research, Michigan State University



Day One – Research Presentations



FEEDiFUTURE
The U.S. Government's Global Hunger & Food Security Agency
Innovation Lab for Legume Systems Research

Systems research to identify legume options for sustainable intensification: Pigeonpea and mung bean as test cases for scaling in West Africa

Princess Hayford and Sieg Snapp, February 2021

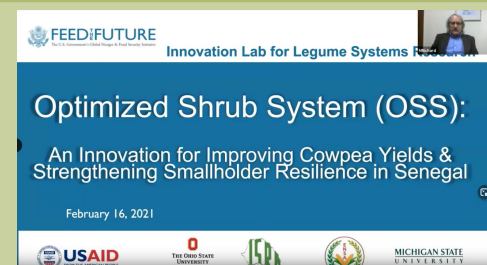
USAID
MICHIGAN STATE UNIVERSITY

Systems Research to Identify Legume Options for Sustainable Intensification: Pigeonpea and Mung Bean as Test Cases for Scaling in West Africa

Led by Sieg Snapp, Michigan State University

Optimized Shrub System: Improving Cowpea Yields and Strengthening Smallholder Resilience

Led by Dr. Richard Dick, Ohio State University



FEEDiFUTURE
The U.S. Government's Global Hunger & Food Security Agency
Innovation Lab for Legume Systems Research

Optimized Shrub System (OSS):
An Innovation for Improving Cowpea Yields & Strengthening Smallholder Resilience in Senegal

February 16, 2021

USAID
THE OHIO STATE UNIVERSITY
IITA
MICHIGAN STATE UNIVERSITY



FEEDiFUTURE
The U.S. Government's Global Hunger & Food Security Agency
Innovation Lab for Legume Systems Research

AOI 1.2: Science-driven and farmer-oriented insect pest management for cowpea agro-ecosystems in West Africa


February 2021

USAID
IITA
MICHIGAN STATE UNIVERSITY

Science-Driven and Farmer-Oriented Insect Pest Management for Cowpea Agro-Ecosystems in West Africa





Led by Dr. Manuele Tamò, International Institute of Tropical Agriculture (IITA), Benin

Day Two – Research Presentations

 **FEEDiFUTURE**
U.S. Department of Agriculture | Feed the Future Initiative
Innovation Lab for Legume Systems Research

Cowpea Biomarker Study in Ghana

Meghan Callaghan-Gillespie, MPH
Manary Research Lab
Washington University in St. Louis, MO


   

Cowpea Biomarker Study In Ghana

Quick Start activity led by Mark Manary, Washington University - St. Louis, MO





Development of Market-driven improved Cowpea Varieties using Mature-markers

Led by Phil Roberts, University of California-Riverside

 **FEEDiFUTURE**
U.S. Department of Agriculture | Feed the Future Initiative
Innovation Lab for Legume Systems Research

Development of Market-Driven Improved Cowpea Varieties for West Africa using Mature-Markers (AOI 1.1)

February 17, 2021

 **FEEDiFUTURE**
U.S. Department of Agriculture | Feed the Future Initiative
Innovation Lab for Legume Systems Research

Sustainable Intensification of Dual-Purpose Cowpea Varieties for Enhanced Food and Fodder in Senegal

Augustine Obour, Vara Prasad, Allou Faye, Min Doohong, Bineta Mbengue, Mouhamad Moussa Diangar and Yacob Zerayesus

Sustainable Intensification of Dual-Purpose Cowpea Varieties for Enhanced Food and Fodder in Senegal

Led by Dr. Augustine Obour, Kansas State University

Day Three – Research Presentations



Innovation Lab for Legume Systems Research

Genetic Improvement of Dry Beans for Bruchid Resistance for Southern Africa

February 2021



Genetic Improvement of Dry Beans for Bruchid Resistance for Southern Africa

Led by Dr. Juan M. Osorno, North Dakota State University

Promoting Trade Integration in Regional Legume Markets with Mobile Technology

Led by Dr. Eric Crawford, Michigan State University



Innovation Lab for Legume Systems Research

Promoting Trade Integration in Regional Legume Marketswith Mobile Technology

February 2021



Innovation Lab for Legume Systems Research

How Input Subsidy Policies Change the Cowpea Farming Landscape in West Africa


January 2021



How Input Subsidy Policies Change the Legume Farming Landscape

Led by Dr. Melinda Smale, Michigan State University



Day Three – Research Presentation



Innovation Lab for Legume Systems Research

Quantifying the scale and scope of nutritious cowpea products in local markets of West Africa

February 2021



Quantifying the Scale and Scope of Nutritious Cowpea Products in Local Markets

Led by Dr. Veronique Theriault, Michigan State University

External Presentation

Innovation to Impact (i2i)

Led by Dr. Peter Goldsmith, Feed the Future Soybean Innovation Lab,
University of Illinois



Project Internal Meetings – Topics

- Review and Update Strategy White Paper
- Administrative Update
 - COVID-19
 - USAID Environmental Policies
 - Mission Communications
 - Importance of Photography in Projects
 - Role of Lab Research Manager
- Cross Cutting Themes New Funding Opportunity
- Future Trends for Legume Research
- Cowpea Atlas Brainstorming Session
- Innovation to Impact (i2i) Presentation
- TMAC Address and Breakout Activity

Technical Management Advisory Committee (TMAC) Address

A View from the Outside

By Dr. Jeff Alwang, Virginia Tech

After providing a summary of the TMAC's role, who is on the TMAC, and what the TMAC looks for, Dr. Alwang provided the following observations:

- Good balance of high tech (upstream science) versus very applied
- Nice to see seed systems, downstream value chains, and role of private sector
- Cross-cutting themes are well-represented as appropriate
- COVID forced changes such as travel and finding a lot can be done without travel, projects have done a good job, and resilient science
- Learning from research during COVID, how to exploit ICT, what can host-country scientists share on adaptations to COVID challenges?

Breakout Activity Summary – Responses from Project Teams and Areas for Improvement

- More opportunities or spaces for interactions across or between projects as well as collaboration with external partners
- The projects have survived without travel this year, but travel is still necessary when COVID conditions allow
- Better integration of gender in projects both engaging women stakeholders in projects and degree training
- Opportunities for PhD degree training and degree training at US Universities

Resilience Resource Team

To assist projects in identifying strategies and interventions to incorporate cross-cutting themes of gender, nutrition, youth and resilience into their research, the lab established the Resilience Resource Team (RRT), the first of its kind for Feed the Future Innovation Labs. The RRT is comprised of advisors in each of the cross-cutting areas plus monitoring and evaluation (M&E) and project management support. Beyond ensuring the integration of capacity development across cross-cutting themes, the purpose of this initiative is the design of a resilience framework to support the legume value chain.

The team first designed scoring tools to assess readiness and capacity of the projects to address the cross-cutting themes and achieve the greatest impact. Results served as baseline information on cross-cutting themes for these projects, and capture of cross-cutting theme indicators. Gap areas resulted in design of call for concept notes, and additional technical assistance and capacity grants from the Legume Systems Research Management Entity. A dynamic M&E dashboard has also been created to capture data and information on RRT performance and cross-cutting theme milestones. At the convening, the team [presented](#) on activity to date and plans for future initiatives.



Strategy White Paper

"Leveraging Technology for Effective Systematic Change" is a collective 'living' vision strategy identified and updated annually during the Legume Systems Innovation Lab Annual Global Convening. The goal of the document is to ensure the Legume Lab stays focused on relevant projects aimed at achieving the greatest possible impact and scaling outcomes for global legume research utilizing a systems approach.

The document was first developed during the inaugural global convening held in Senegal in 2020 pre-COVID. During the 'virtual' 2021 global convening, the group updated the strategy and expanded focus to include Southern Africa to reflect the growing geographic focus of the Legume Lab.

Feed the Future Innovation Lab for Legume Systems Research

Leveraging Technology for Effective Systematic Change

Strategy Whitepaper Update

February 16-18, 2021 Virtual Convening

Version: March 29, 2021

[Click Above to View Strategy Paper](#)

Convening Recap by the Numbers

- Virtual Event Platform - Whova with Zoom
 - 124 Participants Registered
 - 119 Active Users
 - 47% Used Mobile App
 - 78% Used Web App
 - Whova Community Highlights
 - 23 Discussion Topics Posted
 - 325 Messages
 - 7 Articles Shared
 - Importance of Photography in Projects
 - Role of Lab Research Manager
 - Networking Highlights
 - 168 Private Messages
 - 146 One-on-One Attendee Interaction
-



This event and the research presented was funded by the United States Agency for International Development (USAID) under Agreement #7200AA18LE00003 as part of Feed the Future Innovation Lab for Legume Systems Research. Any opinions, findings, conclusions, or recommendations expressed here are those of the authors alone.



MICHIGAN STATE
UNIVERSITY