



**Feed the Future Innovation Labs for  
Collaborative Research**



# **Linking Innovation Lab Varieties to Seed Systems**



**Dr. Irvin E. Widders  
Legume Innovation Lab  
Michigan State University**

# Seed- A marvelous technology!



*Feed the Future Innovation Labs for Collaborative Research*

# Impact Pathway for Improved Varieties



- Plant Breeding Program



- Seed System



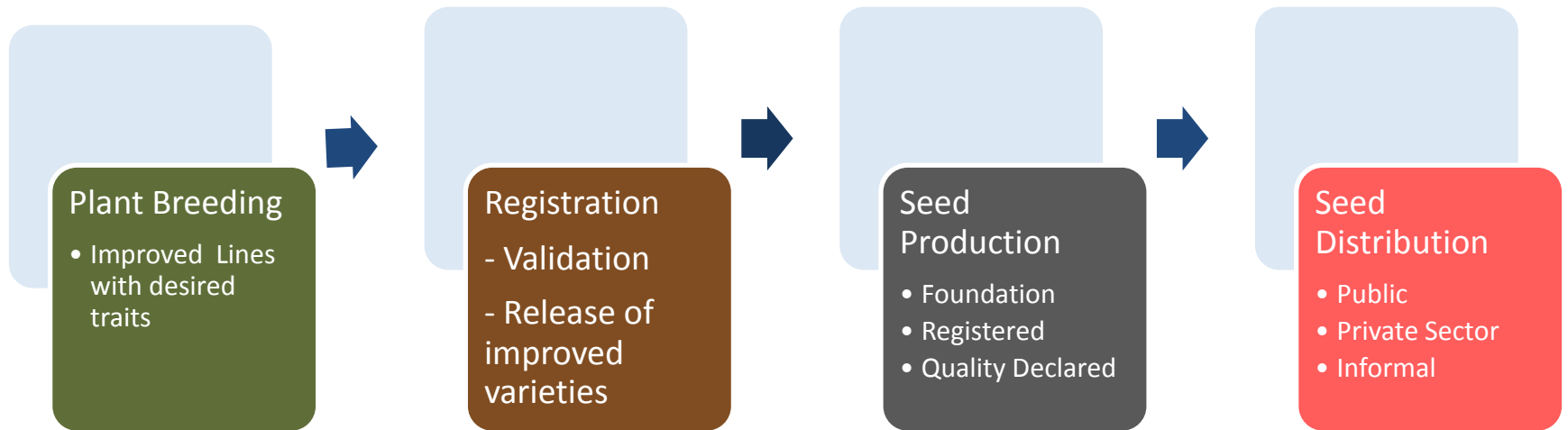
- Farmer Testing and Adoption



- Increased Productivity



# Seed System



# Objectives of Seed Systems

- To introduce farmers to improved germplasm (varieties)
- To provide access to quality seed for planting



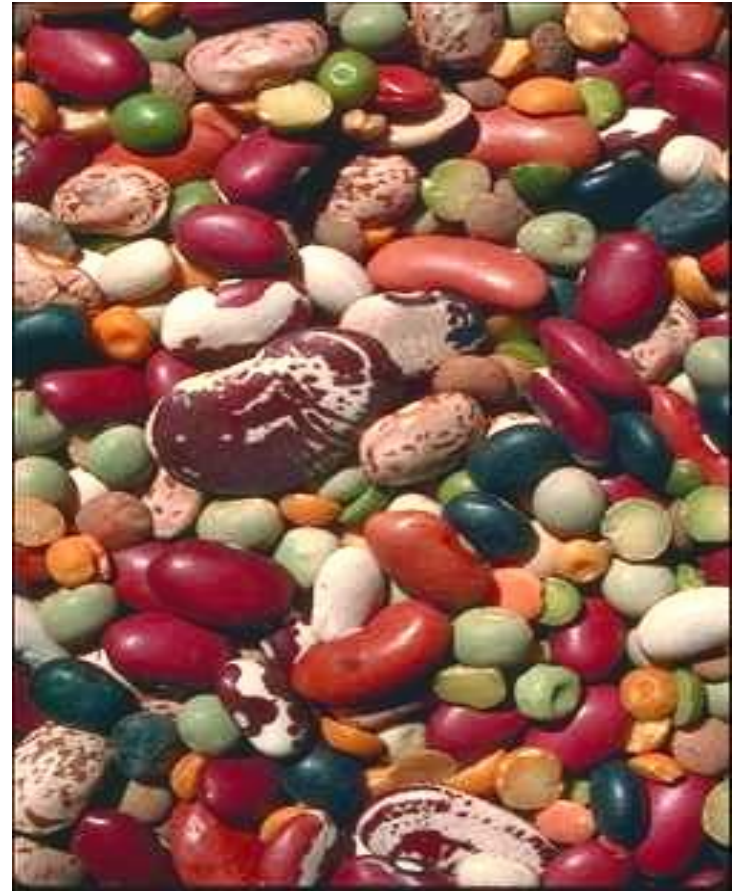
# Challenges of Seed Access for Smallholder Farmers

- Seed affordability (function of farmer willingness to pay for quality seed to plant crop)
- Farmer recognition and demand for improved varieties
- Seed delivery to remote rural communities



# Factors Affecting Seed Cost

1. Certification of disease free seed production
2. Hybrids or transgenic varieties (IPs)
3. Handling, storage and transport of seed



# Questions- Seed Systems



- What are the characteristics of **sustainable** seed systems?
- Must seed be “**certified**” to benefit smallholder farmers?
- Can **informal systems** function in parallel to commercial seed systems?





# Legume Innovation Lab : Bean Technology Dissemination Project

- Guatemala, Honduras, Nicaragua and Haiti
- Program reaching 120,000 farmers
- Up to 150 seed banks per country
- Assessing efficacy and sustainability of community based-seed multiplication



*Feed the Future Innovation Labs for Collaborative Research*

# Sustainable Community-Based Seed System for Beans

- Provision of **registered seed** of improved varieties to communities for multiplication
- **Community-based seed multiplication** by trained women farmers
- **Cell phone based system** for technical assistance and accountability for disease-free seed production
- Community seed banks for **local conservation of germplasm** (land races and improved varieties)





**USAID**  
FROM THE AMERICAN PEOPLE



**Dry Grain Pulses CRSP**

Dr. Irvin Widders, Director  
Legume Innovation Lab  
321 Agriculture Hall  
Michigan State University  
East Lansing, Michigan 48824  
Phone: (517) 355-4693  
Email: [legumelab@msu.edu](mailto:legumelab@msu.edu)  
[www.legumelab.msu.edu/](http://www.legumelab.msu.edu/)



*Feed the Future Innovation Labs for Collaborative Research*