

Impact Pathway Analysis of the Dry Grain Pulses CRSP Phase II and Phase III Projects – Prognosis for Development Impacts

(Analysis conducted by MSU-4 PI based on information provided by each Project PI)

Project \a	Types of outputs	Potential Scale of impacts envisioned by PIs in the next 5 years	Impact indicators and pathway to achieve developmental outcomes	Potential for long-term impacts (subjective analysis)
PII-MSU-1	New materials (markers, parental lines and varieties)	Medium to large--Two growth habits and four seed types in Rwanda and Ecuador	Increased adoption→increased yield→increased income and production	Yes – if breeders play an active role (as a partner) in seed multiplication and dissemination efforts
PII-ISU-1	New methods and approaches	Small--District level (Kamuli, Uganda)	Higher yield→increased income	Yes—if the methods/approaches are scaled up by the NGO (currently this vision is not explicit)
PII-MSU-2	Information systems	Small—pilot scale (regions within a country)	Increased access to market at higher price→increased income	Yes—if the system is scaled up by partners (currently this vision is not explicit) and if research shows evidence of impact indicators and pathway
PII-PSU-1	New materials for breeding programs	Not specified	Improved materials→adopted by breeders→new varieties with root traits→increased yields by adopted farmers→increased income and production	Yes—if breeders integrate the materials in bean breeding program. But PI expressed frustration on the lack of interest from breeders
	Knowledge on seed system	Local impacts in bean growing region (Mozambique)	Changes in national policy→reduction in constraints to low-P bean seed diffusion	Low--Difficult to change policy with one small scale study
PII-UCR-1	New materials (advanced lines and varieties)	Medium—sub-regions in multiple countries (Senegal, BF, Mali, Niger)	Increased productivity → increased income and production	Yes – if breeders play an active role (as a partner) in seed multiplication and dissemination efforts
PII-UPR-1	New materials (markers, parental lines and varieties)	Large (100,000 farmers in multiple countries)	Increased adoption→increased yield→increased income and production	Yes—if the FtF technology transfer project in Central America is successful

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PII-UIUC-1	<p>New materials released (Biocontrol agents)</p> <hr/> <p>And</p> <p>New strategies, information systems and extension materials</p>	<p>Medium—thousands of farmers across multiple countries (BF, Mali, Niger, Nigeria)</p>	<p>Biocontrol agents → decrease in pests → increased yield → increased income and production</p> <hr/> <p>New information → adoption of new on-farm practices → decrease in yield loss → increased income and production</p>	<p>Yes—if research shows evidence of impact indicators and pathway</p>
PIII-ISU-2	<p>New knowledge, recommendations (innoculums) and materials (QTLs and germplasm)</p>	<p>Large (multiple countries, 15% of farmers)</p>	<p>Adoption of recommendations and materials → increased productivity → increased income/production, environmental impacts</p>	<p>Yes—if research shows evidence of impact indicators and pathway (and adoption occurs as predicted)</p>
PIII-MSU-3	<p>New knowledge on how pulse consumption reduces markers of chronic disease</p> <hr/> <p>and</p> <hr/> <p>New knowledge on how pulse consumption reduces markers of chronic disease improved nutritional and immunological status</p>	<p>None (PI sees this project as achieving impacts over long-term—30-35 years)</p>	<p>Consumers and commodity advocates instigate change in nutritional recommendations by national and international agencies → recommendations are implemented at grassroots → Changes in food choices → improved health and reduction in health costs</p> <hr/> <p>Donors provide funds for large scale multi-national testing of nutritional intervention for PLHA → policy change and commitment of resources for nutritional support and not just for drugs → changes in food choices and increased consumption of pulses and essential nutrients → improved health and reduction in health costs</p>	<p>Uncertain—it depends on changing behavior and attitudes of many players along the pathway. Also, not sure if the knowledge generated by one study at such a small scale can influence national and international policies; Need a critical mass of ‘knowledge’ pool to influence change in policy and consumer behavior</p>

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PIII-KSU-1	New information, knowledge and ideas (on bean and cowpea supply chains and adoption protocols to enhance the relationship between value accretion and gender)	None	New information → improved governance system in supply chain → higher value accretion → higher income accruing to female producers → improved household food and nutrition security	Uncertain—not sure about the realization of the pathway from outputs to impacts
PIII-TAMU-1	New knowledge (effect of food processing on cowpea bioactives)	None	Community outreach targeting consumers, policymakers and farmers → Increase in demand and use of cowpeas with enhanced health attributes → Improved health and food security among vulnerable groups and Improvement in income for cowpea farmers	Uncertain—it depends on many factors outside the control of researchers. Also, not sure if the knowledge generated by this one study can influence consumers.
	New materials (cowpea lines, improved varieties with bioactivity traits)	None	Development of varieties with high phytochemical content and enhanced health benefits → adoption by farmers → increased production and consumption of nutritionally enhanced cowpeas	

\a See the titles of each project on page 4.

Titles of Projects:

Project	Title
PII-MSU-1	<i>Combining Conventional, Molecular and Farmer Participatory Breeding Approaches to Improve Andean Beans for Resistance to Biotic and Abiotic Stresses in Ecuador and Rwanda</i>
PII-ISU-1	<i>Enhancing Nutritional Value and Marketability of Beans through Research and Strengthening Key Value Chain Stakeholders in Uganda and Rwanda</i>
PII-MSU-2	<i>Expanding Pulse Supply and Demand in Africa and Latin America: Identifying Constraints and New Strategies</i>
PII-PSU-1	<i>Improving Bean Production in Drought-Prone, Low Fertility Soils of Africa and Latin America – An Integrated Approach</i>
PII-UCR-1	<i>Modern Cowpea Breeding to Overcome Critical Production Constraints in Africa and the U.S.</i>
PII-UIUC-1	<i>Biological Foundations for Management of Field Insect Pests of Cowpea in Africa</i>
PII-UPR-1	<i>Development, Testing and Dissemination of Genetically Improved Bean Cultivars for Central America, the Caribbean and Angola</i>
PIII-ISU-2	<i>Enhancing Biological Nitrogen Fixation of Leguminous Crops Grown on Degraded Soils in Uganda, Rwanda, and Tanzania</i>
PIII-MSU-3	<i>Improving Nutritional Status and CD4 Counts in HIV-Infected Children through Nutritional Support</i>
PIII-KSU-1	<i>Pulse Value Chain Initiative—Zambia</i>
PIII-TAMU-1	<i>Increasing Utilization of Cowpeas to Promote Health and Food Security in Africa</i>