

LEGUME INNOVATION LAB FOR COLLABORATIVE RESEARCH ON GRAIN LEGUMES

FY 2015 WORKPLAN

Project Code and Title:

SO4.1 Impact Assessment of Dry Grain Pulses CRSP investments in research, institutional capacity building and technology dissemination for improved program effectiveness

Lead U.S. Principal Investigator (PI) and affiliated Lead U.S. University:

Mywish Maredia, Professor, Agricultural, Food and Resource Economics (AFRE), Michigan State University

Host Country and U.S. Co-PIs and Institutions:

Eric Crawford (Co-PI) and Byron Reyes (Collaborator), Agricultural, Food and Resource Economics, Michigan State University

US and HC PIs/collaborators of other Legume Innovation Lab Projects

I. Project Problem Statement and Justification:

Impact assessment is essential for evaluating publicly-funded research programs and planning future research. Organizations that implement these programs should be accountable for showing results, demonstrating impacts, and assessing the cost-effectiveness of their implementation strategies. It is therefore essential to document outputs, outcomes and impacts of public investments in research for development (R4D) activities. Anecdotal data and qualitative information are important in communicating impact to policymakers and the public, but must be augmented with empirical data, and sound and rigorous analysis.

Building on the momentum and experience gained over the last three years, the proposed research will contribute towards evidence-based rigorous ex ante and ex post assessments of outputs, outcomes and impacts with the goal of assisting the Legume Innovation Lab program and its Management Office (MO) to achieve two important goals--accountability and learning. Greater accountability (and strategic validation) is a prerequisite for continued financial support from USAID and better learning is crucial for improving the effectiveness of development projects and ensuring that the lessons from experience – both positive and negative – are heeded. Integrating this culture of ‘impact assessment’ in publicly funded programs such as the Legume Innovation Lab will ultimately help increase the overall impact of such investments.

II. Planned Project Activities for the Workplan Period (April 1, 2013 – September 30, 2014)

Objective 1:

Provide technical leadership in the design, collection and analysis of data for strategic input and impact evaluation

Collaborators:

Juan Osorno (NDSU) and Julio Martinez (ICTA)
Biaou Agué Eustache and Hinnou C. Léonard (INRAB), Manuele Tamo (IITA) and Barry Pittendrigh (UIUC)

Approaches and Methods:

In FY14, after consulting with the PIs of other Legume Innovation Lab Projects, several opportunities were identified for baseline assessments. Discussions and preliminary planning for two of these studies was initiated in FY 14. But most of the field work will be implemented in FY 15. These activities include:

- 1a. Socio-economic baseline study on the constraints and opportunities for research to contribute to increased productivity of climbing beans in Guatemala:** This will be a joint activity with the SO1.A1 project team under their objective ‘*Genetic improvement of climbing black beans for the highlands of Central America.*’ This study will be designed to establish a baseline about production of climbing beans in the highlands of Guatemala, and to better understand the current status of the climbing bean/maize intercropping production system. Information and data concerning cultivated area, number of different species grown, number of farmers utilizing this cropping system, production problems, seed quality and culinary preferences will be collected to help establish priorities for the climbing bean breeding program.
- 1b. Study on the market potential for biopesticides in Benin:** This will be a collaborative activity with the SO1-B1 project team, specifically with Biaou Agué Eustache and Hinnou C. Léonard from INRAB-Benin, under their objective 3 ‘*Scaling of solutions.*’ This study will be designed to assess the potential groups that can develop, market and sell biopesticides, and serve as the logical “pass-off” groups in host countries for scaling up these technologies. This study will serve as a baseline to assess the market potential for biopesticides (e.g., what farmers are willing to pay, what will be the costs to enter the market place for small industries, what are skill-sets that need to be developed for womens’ groups to potentially make and profit from selling such materials, etc.) and will determine the networks of NGOs and other organizations where the project can “pass-off” educational approaches (e.g., animations) for scaling. The field work will consist of the following three phases:
 1. Documentation phase: collection of secondary information
 2. Exploratory survey in main cowpea production areas mainly through group interviews of major stakeholders in the value chain, but also to collect preliminary data for designing the individual survey questionnaire
 3. Detailed survey with individual questionnaires administered to key players in the cowpea value chain particularly targeting producers and consumers, and their willingness to pay for biopesticides and biopesticide-treated cowpea, respectively

For these two studies, the Impact Assessment team will provide technical support in the form of human resources and professional expertise in data collection (i.e., sample design, evaluation design, designing data collection instruments, training enumerators, data entry templates, etc.) and analysis. This will be a joint activity with the relevant research team and rely on the logistical support from the host country partners. A majority of resources for data collection have been budgeted under the relevant research projects. However, for the study in Guatemala, resources to meet the budget shortfall to ensure that a rigorous study is

conducted, will be met from this project's FY 14 budget allocation.

Objective 2: Conduct ex ante and ex post impact assessments

Collaborators:

Robert Shupp, Department of Agricultural, Food and Resource Economics (MSU)
Susan Nchimbi-Msolla, Paul Kusolwa and Fulgence Mishili, SUA, Tanzania
Jim Beaver (UPR) and Emmanuel Prophete (Haiti)

Approaches and Methods:

Under this objective, this project plans to: 1) assess the realized (ex post) impact of the Legume Innovation Lab (and the predecessor CRSP program's) investment in technologies/outputs where there is evidence of adoption, and 2) enhance future impacts by engaging in innovative and evidence-based research that will serve as an input in making strategic research priority decisions by the Legume Innovation Lab program, and in developing strategies for technology dissemination for maximum impact. In FY 15, following research studies and activities will be undertaken under this objective.

2a. Assessment of the willingness of small holder farmers to pay for quality seed?

In FY 15, we plan to implement a research study in Tanzania to assess farmers' willingness to pay for quality seed over grain. This research will be done in collaboration with the bean research team at SUA and the CIAT/PABRA seed research theme leader (i.e., Dr. J. C. Rubyogo). Opportunities to engage a MS student at SUA in the implementation of the field research component will be explored with the SUA team.

The methodology/ approach to address this research question will consist of first conducting field experiments in farmers' fields to demonstrate the value of planting different types of seeds of the same variety (to keep the genetic component of the planting material constant) vs. grain saved from previous harvest (representing different years of recycled seed) or purchased from the market, and then conducting choice experiments (CE) and/or bidding experimental auctions (BEA) to test farmers' willingness to pay for seed vs. grain. These experiments will include various treatments related to the type of materials used for planting: grain (saved from previous harvest representing different years of recycled seed), grain purchased from the market, quality-declared seed, and certified seed. The experiments could be designed to understand the following elements of seed demand – quantity of seed, frequency of seed purchase, and willingness to pay for seed for a given quantity and frequency. The major field costs of doing this study will include conducting the field experiments in different sites (to represent different agro-ecological and socio-economic conditions) and going to the field (after harvest) to conduct the CE/BEA experiments and data collection. The reason for selecting Tanzania for this study is because it is one of the only countries in the ESA region that officially recognizes quality declared seed (QDS), and it will be interesting to compare the performance of QDS vs. certified seed and then assess farmers' willingness to pay for these two types of seed, which have different cost of production associated with them. Potential sites where this study will be conducted include Manyara, Arusha or Kilimanjaro in northern Tanzania, and Mbeya in Southern Highlands.

2b. Impact study in Haiti: There is a strong interest from the SO4.A4 project team to do an impact study in Haiti, which will also serve as an opportunity to collect data/information about the problems farmers are facing, which can be used by the SO4.A4 team to target bean research to address these problems. We plan to collaborate with SO4.A4 project team to conduct an impact assessment study focused in areas where the Bean Technology Dissemination (BTD) project has recently disseminated improved bean varieties, for example, the Lower Central Plateau and the Cul-de-Sac Valley of Haiti. The challenge in doing an ex post impact study is to identify a credible counterfactual group to be able to attribute the impacts to bean research. The BTD project records will be used to guide in the sampling strategy, and to find comparison groups that can be used to assess the impact of the adoption of outputs of bean research and the BTD project activities.

No resources are available to cover the data collection cost in the SO1.A4 project budget. However, in-kind support and technical guidance from the SO1.A4 project (and esp. from HC PI) will be available. We are currently in the process of getting estimates on the cost of conducting this study. Tentatively, the plan is to use some of the resources available through this impact assessment project to partially cover the cost of data collection. However, the study will be implemented in FY 15 only if funding is secured to meet the estimated budget.

Objective 3: *Build institutional capacity and develop human resources in the area of impact assessment research*

Collaborators: NARS and CIAT partners

This project will address the objective of institutional capacity building and human resource development through the following activities planned in FY 15:

- a. Research activities under objectives 1 and 2 will involve host country PIs/collaborators in the planning and conduct of field data collection as much as possible.
- b. Activities planned under this project will involve graduate students in the planning and conduct of field research and write-up of research results. These students will be recruited from within the Department of Agricultural, Food and Resource Economics at MSU (see the details on trainees in the Training section).
- c. Short courses on impact assessment. Three short-term training workshops to build capacity of local partners is being planned in collaboration with CIAT, MSU's Food Security Group faculty members and other NARS partners as described in the Training section. These training workshops will focus on teaching theoretical concepts and demonstrating practical applications of these concepts to rigorously assess the impact of agricultural projects and programs. The topics will include current theory and methods on impact evaluation, sampling methods, data collection instrument design, data collection using computer assisted personal interviewing software and paper questionnaires, and the use of statistical software for data cleaning and analysis.

III. Contribution of Project to USAID Feed the Future Performance Indicators:

See the attached excel file

IV. Outputs:

Specific outputs to result from this project by the end of FY 15 include:

- a. Completion of one Impact Brief
- b. Completion of one manuscript for publication in academic journals and/or presentations at professional meetings

V. Engagement of USAID Field Mission(s)

No specific plans for engagement of USAID Field Mission(s) are envisioned in FY 15. Project activities in host countries will mainly involve data collection, accessing secondary data, and information gathering through stakeholder interviews. Data collection will be done in collaboration with HC partners in countries where Legume Innovation Lab is already engaged and where activities are occurring in concurrence with USAID country or field missions.

VI. Partnering and Networking Activities:

All the activities occurring in specific countries through field research will involve collaboration with host country institutions and partners. Host country institutions will not only be involved in the planning and design of data collection efforts, conducting surveys, data entry and report writing, but also in the dissemination of results to broader audience and stakeholder groups. Opportunities will be sought to present papers based on this project's research results in national and international policy and professional forums.

Results emanating from this impact assessment research project will be published in the form of Impact Briefs and will be posted on the Legume Innovation Lab website. They will be also shared with appropriate USAID mission offices through the Legume Innovation Lab Management Office and host country partners.

VII. Leveraging of Legume Innovation Lab Resources:

The project PIs will be actively engaged in identifying opportunities to partner with other international impact assessment and Grain Legume research programs/projects and seek for opportunities to leverage resources to achieve common research goals. Some examples of anticipated leverage activities include exploring funding opportunities in response to RFAs in the area of impact assessment research. For example, the International Initiative for Impact Evaluation (3ie) routinely issues RFPs to promote research in the area of impact evaluation of development interventions in developing countries. In the next round, opportunities will be sought to leverage funding from this organization to conduct 'impact evaluation' of a legume based project in partnership with host country PIs and collaborators to promote objective 2 of this project.

VIII. Timeline for Achievement of Milestones of Technical Progress:

See the attached excel file

Training/Capacity Building Workplan for FY 2015

Degree Training:

First and Other Given Names: David
Last Name: DeYoung
Citizenship: USA
Gender: Male
Training Institution: Michigan State University
Supervising CRSP PI: Mywish Maredia
Degree Program for training: Ph.D.
Program Areas or Discipline: Agricultural Economics
If enrolled at a US university, will Trainee be a “Participant Trainee” as defined by USAID? No
Host Country Institution to Benefit from Training: None
Thesis Title/Research Area: Potential and realized impact of bean research in Guatemala and Haiti
Start Date: Fall 2014
Projected Completion Date: Fall 2016
Training status (Active, completed, pending, discontinued or delayed): Active
Type of CRSP Support (full, partial or indirect) for training activity: Full

Short-term Training:

Description of training activity: Three short-term training workshops are tentatively planned in FY 15. These will focus on teaching theoretical concepts and demonstrating practical applications of these concepts to rigorously assess the impact of agricultural projects and programs. The topics will include current theory and methods on impact evaluation, sampling methods, data collection instrument design, data collection using computer assisted personal interviewing software and paper questionnaires, and the use of statistical software for data cleaning and analysis.

Location: of these three workshops is:

- 1) East/South Africa (country to be determined-TBD): this workshop will be given in collaboration with CIAT and NARS partners and the country will be selected based on the existence of current Legume Lab projects and country location (i.e., easy to travel from other countries in the region).
- 2) Mozambique (not confirmed at the time of finishing this document): this workshop will be organized by an AFRE/MSU colleague and SO4.1 collaborators and might be given in collaboration with CIAT (to be determined).
- 3) Uruguay: this workshop will be organized by Uruguay’s NARS, in collaboration with PROCISUR and will be given by SO4.1 and CIAT collaborators. One of the participants to the training workshop that CIAT organized in collaboration with project SO4.1 in April 2014 was extremely satisfied with the topics taught and what he learned and indicated his interest in us giving a similar workshop in Uruguay. This person has been able to secure funding for this course, which will most likely be given in March or April 2015 and is in charge of organizing it.

Duration: Each workshop will last 4.0-4.5 days

When will it occur: Between March-August, 2015. Exact dates are not available yet.

Participants/Beneficiaries of Training Activity: Researchers and economists from national and international research centers and universities from the countries where the workshops will be held and, in most cases, neighboring countries.

Anticipated numbers of Beneficiaries (male and female): Participants will include 20-25 economists from several countries in the first workshop (country TBD), 10-15 economists from Mozambique in the second workshop, and around 15 economists from South America (it is expected that two NARS economists from each of the following countries will participate: Argentina, Brazil, Chile and Paraguay plus several economists from Uruguay; all these members of PROCISUR, organization that will fund their participation) in the third workshop. The male:female ratio is not available at this time, but female participants are expected.

PI/Collaborator responsible for this training activity: Byron Reyes (collaborator), Mywish Maredia (PI)

List other funding sources that will be sought (if any):

- 1) For the first workshop in Africa (country TBD), current funding from SO4.1 is only available to cover travel expenses and salary for the SO4.1 collaborator; thus, obtaining funding for all other expenses will be needed (CIAT collaborators will cover their participation costs). The realization of this workshop will depend on obtaining the funding needed for it.
- 2) For the second workshop in Mozambique, a final decision about whether to implement it will be made before October 2014 by the MSU colleague in charge of organizing and funding it. If a final decision is made to implement the course, it will be fully funded. Thus, the SO4.1 project might only need to cover salary of the SO4.1 collaborator (it is likely that travel expenses will be covered by the organizer of the course).
- 3) For the third workshop in Uruguay, it will be fully funded by Uruguay's NARS and PROCISUR. Thus, is likely that project SO4.1 will only need to cover salary of the collaborator since Uruguay's NARS will cover the travel cost of the speakers (i.e., SO4.1 collaborator, CIAT).

Training justification: Based on the experiences from implementing similar workshops during 2014, it is clear that building the capacity of local partners is still necessary. Since the previous two workshops (implemented in 2014) were implemented in Latin America, we consider that it is necessary to also replicate these workshops in Africa. Further, given that the workshops implemented in 2014 generated high interest from participants, one of the participants in one of the workshops took the initiative of obtaining funding to replicate a similar workshop in Uruguay, as previously indicated. In the case of Mozambique, our colleague at AFRE/MSU has expressed interest in providing this type of training to his project partners in this country and economists from NARS collaborating with the Legume Lab could also participate. The third workshop will be mostly directed to Legume Innovation Lab and CIAT partners from African countries.

These workshops will be led by Legume Innovation Lab collaborators and other MSU faculty, and will include economists from CIAT. This will be a joint activity in collaboration with NARS partners, who will assist during the organization and in some cases, cover most of the local cost of organizing the short course and supporting the participants.

Equipment (costing >\$5,000): **None**