

**Feed the Future Innovation Lab for Collaborative Research on Grain Legumes
LEGUME INNOVATION LAB**

**2015 ANNUAL TECHNICAL PROGRESS REPORT
(October 1, 2014 – September 30, 2015)**

TEMPLATE

Project Code and Title: SO2.2 Enhancing Pulse Value-Chain Performance through Improved Understanding of Consumer Behavior and Decision-Making

Short Title: Grain Legume Value Chain Initiative

Lead U.S. Principal Investigator and University: Vincent Amanor-Boadu, Kansas State University

Collaborating Host Country and U.S. PIs and Institutions:

1. Gelson Tembo, University of Zambia
2. Lawrence Mapemba, Lilongwe University of Agriculture and Natural Resources, Malawi
3. Fredy Kilima, Sokoine University of Agriculture, Tanzania
4. Allen Featherstone, Kansas State University
5. Kara Ross, Kansas State University

I. Abstract of research achievements and impacts

(A succinct narrative of technical progress of project, including key research and capacity strengthening achievements and outcomes, during the corresponding performance and report period--1200 character limit)

During FY2014-2015, the research team conducted electronic discrete choice experiments in each of the three target countries: Zambia, Malawi, and Tanzania. Over 2,300 surveys were completed in the three countries. The lead US PI facilitated two workshops on entrepreneurial activities and strategic alliances in the food and agribusiness industries in each of the three focus countries. In total, 157 people attended the strategic alliances workshops and 131 attended the three entrepreneurial workshops. During each of the country visits, the US PIs and HC PIs met with key industry partners to establish a partnership and start planning an industry wide conference in each of the focus countries for FY2016. The first round of recruited students have either graduated or are close to graduation and have completed reports on each country's situational analysis. Key findings from these students' reports indicate that, on average, bean shares of total food expenditure was about 3.5%, with individuals in the high income class allocating a smaller share of the food expenditure to beans. Interestingly, urban consumers allocated a higher proportion of their food expenditure to beans than rural consumers. To date, almost twenty students have been recruited to work on this project for their degree training requirements.

II. Project Problem Statement and Justification

(Present a concise problem statement and justification for the research and capacity

strengthening activities carried out in this project. Please do not provide a cut-and-pasted version of the project problem statement from the Technical Application. -2000 character limit)

Grain legumes are not traditional staples in Zambia, Malawi and Tanzania despite having significant nutritional benefits. Thus, increase consumption to support smallholder producer economic well-being must be based on clear appreciation of how consumer characteristics and food attribute-level combinations shape that consumers' decisions and choices. The fundamental problem of this project, therefore, is to develop new understanding of the forces and factors shaping and influencing consumers' food choice decisions in eastern and southern Africa and use this understanding to facilitate improvements in legume value chains. The project has three integrated dimensions. First, it develops an empirical foundation for understanding the factors and the extent that these factors influence food choices. This will be the first empirical evaluation of the complex factors influencing consumer choice of grain legumes in eastern and southern Africa. The research then employs the results of these factors and their extent of shaping consumer choices to engage industry stakeholders and public institutions in a search for value creation and value expansion opportunities as well as solutions to challenges preventing value chain effectiveness. The third dimension involves using the information collected on industry capacity gaps to carefully develop and deliver training and outreach programs aimed at enhancing strategy development, management and decision-making. In the end, the project provides innovative and unique pathways that bring smallholder producers and other stakeholders into specific value chain alliances to help smallholder producers improve their economic well-being.

The research's geographic scope covers Zambia, Malawi and Tanzania, all Feed the Future focus countries. These countries represent the different changes that are occurring in eastern and southern Africa, which are increasing urbanization; economic growth and increasing, but unequally distributed incomes; and changing demographics, including in agricultural production. This research's findings will provide insights into how and where these changes are affecting legume consumption. They will provide insights into how to overcome domestic consumption barriers and build stronger value chains to seize new markets.

III. Technical Research Progress

(Describe the research activities (research methods, studies conducted, analyses completed, and significant findings) completed under each objective during the FY 2015 reporting period. Present sufficient detail so that the reviewers will understand and have confidence that the research was carried out in a manner that meets high scientific standards. Discuss briefly primary results, findings or technologies developed that give evidence of technical progress toward objectives.

If certain research activities described in the FY 2015 Workplan were not completed, these must be identified and an acceptable explanation provided in the field (VI) "Explanation for Changes." If implementation of selected research activities will be delayed until the coming Fiscal Year (FY 2016), please also indicate this and again provide a brief reason for the workplan change.)

Objective 1: Identify and analyze the principal factors shaping bean/cowpea consumption and their relative positions in consumers' food rankings in the selected countries.

Approaches and Methods: A discrete choice experiment method to compete Objective 1. This method is superior to others (such as conjoint analysis) in that it is rooted in stated preference theory, which has its foundation in random utility theory. Additionally, statistical methods are employed to conduct the ranking of beans/cowpeas in consumers' food baskets in Zambia.

Two groups of variables are included in the experiment (1) The different product attributes (availability, accessibility, perceived nutritional characteristics (fiber, protein, etc.), preparation time and preparation options, color, storage characteristics, taste and size as well as prices); (2) Consumer characteristics (including frequency of consumption, quantities consumed and expenditure shares) and preference influencers (cultural, and biologic ecologic variables). Its unique theoretical strength is that the choice set always includes at least one feasible alternative.

Because there is random component in random utility theory, preferences are inherently stochastic. Therefore, the foregoing analytical approach facilitates only the prediction of the probability that an individual i will choose beans/cowpeas. The approach, thus, leads to the development of a family of probabilistic discrete choice models that describe how probabilities respond to changes in the choice options (attributes) and/or the covariates representing differences in individual consumers. Therefore, the probability (ρ) that individual i chooses option j from her set of competing options, C_i , equals the probability that systematic (V) and random (ϵ) components of option j are larger than the systematic and random components of all other options competing with j . That is:

$$\rho(j|C_i) = \rho[(V_{ji} + \epsilon_{ji}) > \max(V_{ki} + \epsilon_{ki})] \quad \forall j, k \in \{C_i\} \quad (1)$$

The systematic components include attributes explaining differences in the choice alternatives and covariates explain differences across individuals. The random components, a fundamental aspect of the model's authenticity, capture all the

unidentified factors that influence choices. Together, they define the latent utility, u_{ji} , individuals associate with each alternative as follows:

$$u_{ji} = V_{ji} + \epsilon_{ji} \quad (2)$$

Results, Achievements and Outputs of Research:

- A two-day long training session regarding the survey and the enumerators was conducted in Spring 2015 in each of the three focus countries: Zambia, Malawi, and Tanzania. Although the selected enumerators were experienced with the traditional survey approach, it is important that they be introduced and become familiar with the discrete choice approach since they will be administering the survey. By having an understanding of how the discrete choice experiment is

designed, the enumerators will accurately administer the survey to guarantee valid and unbiased responses. Also, it was important to have the enumerators practice using the electronic devices, i.e., the tablets, and becoming familiar with the computer assisted personal interview approach. US PIs facilitated the training on the discrete choice approach and using the tablets.

- During the enumerator training, the host country PI facilitated the translation of the survey into the local languages to ensure that the survey questions were clear and logical, and the language and context used for the questions were appropriate to elicit unbiased and informative responses.
- A pre-test involving the selected enumerators were conducted as part of the enumerator training in each of the three focus countries. Feedback and suggestion for improving the survey were received incorporate into the survey.
- All the surveys were conducted in the focus countries over a period of 4-6 days in Spring 2015. Seven hundred and thirteen (713) surveys were collected in Malawi, 766 in Tanzania, and 884 in Zambia.
- Survey data has been collated, organized, and cleaned for all three surveys.
- Background research and literature reviews have been or are being conducted to provide support for the research methods and survey design and to develop the framework for the research reports and policy briefs that will be generated from the findings of these discrete choice experiments. The recruited students in Malawi, Tanzania, and Zambia are working on the following research projects, respectively:
 - “Consumer Choice and Preferences for Beans in Lilongwe : A Discrete Choice Modeling approach”;
 - “Bean Production and Marketing in Tanzania”; and
 - “Consumer Preferences for Beans in Zambia”.
- All three studies investigate consumer preferences for different food types and identify the socio-economic and demographic characteristics that influence the consumption of beans.

Objective 2: Conduct situation analyses for bean/cowpea production and marketing/distribution systems with a view to identifying the nature and extent of the gaps in their value chains.

Approaches and Methods: Objective 2 employs econometric analyses on secondary data collected by various institutions in the partner countries to develop a deeper appreciation of the grain legume production environment, including the gender issues underscoring the environment. The World Bank’s nationally-representative Living Standards Measurement Survey – Integrated Survey on Agriculture (LSMS-ISA) data for Malawi and Tanzania and the Food Security Research Project (FSRP) dataset for Zambia will be used to conduct the situation analyses. Primary data will also be collected and used in the situational analyses.

Results, Achievements and Outputs of Research:

- Recruited students in Zambia are working on completing a number of reports on the situational analysis of production and consumption of common beans in Zambia.
- Drafts of these Zambian reports are expected to be completed by the end of December 2015.
- Newly recruited students in Malawi and Tanzania are expected to expand on the completed research studies conducted by last year's students.
- These reports and research studies are also expected to be a part of the students MS theses, which is a requirement for completing their degrees.

Objective 3: Implement formal and informal capacity building initiatives to address identified gaps and support value chain management capacity across the legume industry in the focus countries.

Approaches and Methods: Research partners in the three countries will recruit MS students for their projects in-line with the workplan. Each host country PI is planning to have two MS students recruited by the beginning of the 2015/2016 academic session, in addition to the current MS students recruited in the previous academic year. At the same time, active recruitment for qualified participants from the food and agribusiness communities in Zambia, Malawi, and Tanzania to join the Masters of Agribusiness program at Kansas State University has begun. The research partners will be primarily responsible for the process of searching for qualified candidates and work with the US PIs to facilitate their recruiting.

Results, Achievements and Outputs of Research:

- Each of the focus countries have recruited *at least* one male and one female student. Zambia has recruited a number of upper level undergraduate students to focus on this legume research project for their Honors projects.
- Zambia has recruited another student for the Master of Agribusiness program.
- Tanzanian PI and his department (Department of Agricultural Economics and Agribusiness) recruited candidate pool of two students for the Master of Agribusiness program, and will be selecting one student to sponsor for Spring 2016 enrollment in the program. The selection is expected to conclude by mid November 2015.
- Malawian PI and his department (Department of Agricultural and Applied Economics) recruited candidate pool of four students for the Master of Agribusiness program, and have selected one student to sponsor for Spring 2016 enrollment in the program.
- Malawian PI and his department (Department of Agricultural and Applied Economics) have partnered with the Department of Agribusiness to train agro-

dealers, including members of the Association of Agribusiness Women.

- As part of the training program, a
- Training is expected to start in Spring 2016. The training sessions will be based on the results of the Needs Assessment questionnaire. The questionnaire has been developed and translating the questionnaire into local languages is in process. The questionnaire is expected to be administered in the first quarter of FY2016.
- The US PIs and other host country PIs are providing guidance and support towards this training initiative, and the research team plans on developing similar needs assessment and training sessions in Tanzania and Zambia.

IV. Major Achievements

(Present a "list" of significant research achievements and/or technical advances resulting from project activities during the FY 2015 performance period. The description of each achievement need not be more than three sentences long. Quantitative information on or a technical description of the research achievement would be appreciated as it adds credibility to the importance of the achievement.)

During this reporting period, two major achievements occurred. The first achievement was completion of the discrete choice experiment in each of the focus countries. The second achievement was the facilitation of industry wide workshops on entrepreneurial activities and strategic alliances. These workshops created an opportunity for the PIs to meet key industry players and develop partnerships to future activities. These partnerships are crucial to the success of future activities, since these partners have a wealth of knowledge about the bean industry and are deep network within the industry. These partners will play an important role in analyzing the Needs Assessment questionnaire results and determining which knowledge gaps and skills training will be addressed in each of the three focus countries. These partners will also provide valuable support in disseminating information to all bean producers, industry players, and interested parties by helping with translating information into local languages, organizing and promoting training sessions, and developing distribution channels to share information with those unable to attend the training sessions and other future activities.

V. Research Capacity Strengthening

(Describe here how collaborative research activities supported by the project over the past year have contributed to the strengthening of institutional capacity to carryout multidisciplinary research on grain legumes and solve the problems facing the legume sectors in their home countries and regions. Appropriate capacity strengthening items to present in this section include research equipment (>\$5,000) procured, laboratory and analytical facilities developed, participation in professional meetings or other networking activities, etc.

Please also describe in this section the activities completed and equipment procured utilizing FY 2014 and 2015 "Supplemental Institutional Capacity Strengthening" funds

provided to host country institutions in the respective project and expended in FY 2015.

Training the Enumerators: Kansas State University PIs lead the Training the Enumerators, which was also considered to be a part of the research team's training on discrete choice experiments. The host country PIs helped facilitate the enumerator training in Malawi and Tanzania. Since the Enumerator Training in Zambia occurred last fiscal year, a short training session for the Zambian enumerators was provided by the Kansas State University PIs and the host country PIs before going into the field to re-familiarize themselves with the discrete choice experiment section of the survey.

VI. Human Resource and Institution Capacity Development

(This section is a compilation of project short term and degree training activities completed by the project during the performance period. This is intended to be independent of research capacity strengthening activities described in the previous section.

1. Short-Term Training

- i. Purpose of Training: Enhancing Performance through Strategic Alliances
 - ii. Type of Training: Workshop
 - iii. Country Benefitting: Malawi
 - iv. Location and dates of training: January 29th, 2015
 - v. Number receiving training (by gender): 26 (F) and 43 (M)
 - vi. Home Institution(s) (if applicable):
 - vii. Institution providing training or mechanism: KSU
-
- i. Purpose of Training: Entrepreneurial Action in Food and Agribusiness Companies
 - ii. Type of Training: Workshop
 - iii. Country Benefitting: Malawi
 - iv. Location and dates of training: January 30th, 2015
 - v. Number receiving training (by gender): 18 (F) and 25 (M)
 - vi. Home Institution(s) (if applicable):
 - vii. Institution providing training or mechanism: KSU
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- i. Purpose of Training: Enhancing Performance through Strategic Alliances
 - ii. Type of Training: Workshop
 - iii. Country Benefitting: Tanzania
 - iv. Location and dates of training: Dar Es Salaam, March 3rd, 2015
 - v. Number receiving training (by gender): 10 (F) and 32 (M)
 - vi. Home Institution(s) (if applicable):
 - vii. Institution providing training or mechanism: KSU
-
- i. Purpose of Training: Entrepreneurial Action in Food and Agribusiness Companies
 - ii. Type of Training: Workshop
 - iii. Country Benefitting: Tanzania
 - iv. Location and dates of training: Dar Es Salaam, March 4th, 2015
 - v. Number receiving training (by gender): 10 (F) and 32 (M)

- vi. Home Institution(s) (if applicable):
- vii. Institution providing training or mechanism: KSU
- i. Purpose of Training: Strategic Alliances and Entrepreneurial Action in Agribusiness
- ii. Type of Training: Workshop
- iii. Country Benefitting: Zambia
- iv. Location and dates of training: Lusaka; March 31, 2015
- v. Number receiving training (by gender): 22 (F) and 24 (M)
- vi. Home Institution(s) (if applicable):
- vii. Institution providing training or mechanism: KSU

2. Degree Training

Degree Training:

Masters students will be supervised by the respective HC PI and their program area of study will be agricultural economics or agribusiness. They will not be enrolled in US institution and their projected completion dates will be academic year 2016. The support provided will be partial of the total cost of their training cost.

- i. First and Other Given Names: Marynia Tumeo
- ii. Last Name: Mazunda
- iii. Citizenship: Malawian
- iv. Gender: Female
- v. Training Institution: Lilongwe University of Agriculture & Natural Resources (LUANAR), Bunda College, Malawi
- vi. Supervising CRSP PI: Dr L. Mapemba
- vii. Degree Program for training: Master of Science
- viii. Program Areas or Discipline: Agricultural and Applied Economics
- ix. If enrolled at a US university, will Trainee be a "Participant Trainee" as defined by USAID? :N/A
- x. HC Institution to Benefit from Training: Lilongwe University of Agriculture & Natural Resources (LUANAR), Bunda College, Malawi
- xi. Thesis Title/Research Area: Consumer Choice and Preferences for Beans in Lilongwe : A Discrete Choice Modeling approach.
- xii. Start Date: June 2014
- xiii. Projected Completion Date: Dec 2015
- xiv. Training status :Active
- xv. Type of CRSP Support for training activity: Partial
- i. First and Other Given Names: Emily
- ii. Last Name: Malunga
- iii. Citizenship: Malawian
- iv. Gender: Female
- v. Training Institution: Lilongwe University of Agriculture and Natural Resources

(LUANAR)

- vi. Supervising CRSP PI: Dr. Lawrence D. Mapemba
- vii. Degree Program for training: Bachelors Degree
- viii. Program Areas or Discipline: Agricultural economics
- ix. If enrolled at a US university, will Trainee be a “Participant Trainee” as defined by USAID and included in Trainet?: Not in US University
- x. Host Country Institution to Benefit from Training: LUANAR
- xi. Thesis Title/Research Area: Determinants Bean Consumption at Household Level
- xii. Start Date: 2014
- xiii. Projected Completion Date: 2015
- xiv. Training status (Active, completed, pending, discontinued or delayed): Active
- xv. Type of Legume Innovation Lab Support (full, partial or indirect) for training activity: Partial

- i. First and Other Given Names: Wupe
- ii. Last Name: Msukwa
- iii. Citizenship: Malawian
- iv. Gender: Male
- v. Training Institution: Lilongwe University of Agriculture and Natural Resources (LUANAR)
- vi. Supervising CRSP PI: Dr. L. Mapemba
- vii. Degree Program for training: Masters degree
- viii. Program Areas or Discipline: Agricultural economics
- ix. If enrolled at a US university, will Trainee be a “Participant Trainee” as defined by USAID and included in Trainet?: N/A
- x. Host Country Institution to Benefit from Training: LUANAR
- xi. Thesis Title/Research Area: Bean Consumption Patterns
- xii. Start Date: 2014
- xiii. Projected Completion Date: 2016
- xiv. Training status (Active, completed, pending, discontinued or delayed): Pending
- xv. Type of Legume Innovation Lab Support (full, partial or indirect) for training activity: Partial

- i. First And Other Given Names: Dinah Tuwanje
- ii. Last Name: Banda
- iii. Citizenship: Malawian
- iv. Gender: Female
- v. Training Institution: Lilongwe University of Agriculture and Natural Resources (LUANAR)
- vi. Supervising CRSP PI: Dr. L. Mapemba
- vii. Degree Program for training: Masters
- viii. Program Areas or Discipline: Agriculture And Applied Economics
- ix. If enrolled at a US university, will Trainee be a “Participant Trainee” as defined by USAID and included in Trainet?: N/A
- x. Host Country Institution to Benefit from Training: LUANAR
- xi. Thesis Title/Research Area: Bean Consumption Expenditure

- xii. Start Date:2014
 - xiii. Projected Completion Date:2014
 - xiv. Training status (Active, completed, pending, discontinued or delayed): Active
 - xv. Type of Legume Innovation Lab Support (full, partial or indirect) for training activity: Partial
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- i. First and Other Given Names: Adelina
 - ii. Last Name: Mfikwa
 - iii. Citizenship: Tanzania
 - iv. Gender: Female
 - v. Training Institution: Sokoine University of Agriculture
 - vi. Supervising CRSP PI: Fredy T. M. Kilima
 - vii. Degree Program for training: M.Sc.
 - viii. Program Areas or Discipline: Agric. Econ.
 - ix. If enrolled at a US university, will Trainee be a “Participant Trainee” as defined by USAID?:N/A
 - x. HC Institution to Benefit from Training: Ministry of Agriculture Food Security and Cooperatives
 - xi. Thesis Title/Research Area: Bean Production and Marketing in Tanzania
 - xii. Start Date: Sept, 2013
 - xiii. Projected Completion Date: Aug, 2015
 - xiv. Training status :Active
 - xv. Type of CRSP Support for training activity: Partial
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- i. First and Other Given Names: Ocran
 - ii. Last Name: Chengula
 - iii. Citizenship: Tanzania
 - iv. Gender: Male
 - v. Training Institution: Sokoine University of Agriculture
 - vi. Supervising CRSP PI: Fredy T. M. Kilima
 - vii. Degree Program for training: M.Sc.
 - viii. Program Areas or Discipline: Agric. Econ.
 - ix. If enrolled at a US university, will Trainee be a “Participant Trainee” as defined by USAID?:N/A
 - x. HC Institution to Benefit from Training: Ministry of Agriculture Food Security and Cooperatives
 - xi. Thesis Title/Research Area: Market Participation Among Smallholder Bean Farmers In Tanzania
 - xii. Start Date: Sept. 2013
 - xiii. Projected Completion Date: Aug. 2015
 - xiv. Training status :Active
 - xv. Type of CRSP Support for training activity: Partial
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- i. First and Other Given Names: Ezekiel
 - ii. Last Name: Swema
 - iii. Citizenship:Tanzania
 - iv. Gender: Male

- v. Training Institution: Sokoine University of Agriculture
- vi. Supervising CRSP PI: Fredy T. M. Kilima
- vii. Degree Program for training: M.Sc.
- viii. Program Areas or Discipline: Agric. Econ.
- ix. If enrolled at a US university, will Trainee be a “Participant Trainee” as defined by USAID?: N/A
- x. HC Institution to Benefit from Training:
- xi. Thesis Title/Research Area:
- xii. Start Date:
- xiii. Projected Completion Date:
- xiv. Training status: Active
- xv. Type of CRSP Support for training activity: Partial

- i. First and Other Given Names: Charles
- ii. Last Name: Lungu
- iii. Citizenship: Tanzania
- iv. Gender: Male
- v. Training Institution: Sokoine University of Agriculture
- vi. Supervising CRSP PI: Fredy T. M. Kilima
- vii. Degree Program for training: M.Sc.
- viii. Program Areas or Discipline: Agric. Econ.
- ix. If enrolled at a US university, will Trainee be a “Participant Trainee” as defined by USAID?:N/A
- x. HC Institution to Benefit from Training:
- xi. Thesis Title/Research Area:
- xii. Start Date:
- xiii. Projected Completion Date:
- xiv. Training status :Active
- xv. Type of CRSP Support for training activity: Partial

- i. First and Other Given Names: Mabvuto
- ii. Last Name: Zulu
- iii. Citizenship: Zambian
- iv. Gender: Male
- v. Training Institution: University of Zambia
- vi. Supervising CRSP PI: Dr. Gelson Tembo
- vii. Degree Program for training: Master of Science
- viii. Program Areas or Discipline: Agricultural Economics
- ix. If enrolled at a US university, will Trainee be a “Participant Trainee” as defined by USAID? :N/A
- x. HC Institution to Benefit from Training: University of Zambia
- xi. Thesis Title/Research Area: Consumer Preferences For Common Beans In Lusaka, Zambia. A Stated Preference Approach
- xii. Start Date:April 1, 2015
- xiii. Projected Completion Date: March 31, 2016
- xiv. Training status: Active

- xv. Type of CRSP Support for training activity: Partial
 - i. First and Other Given Names: Leah
 - ii. Last Name: Banda
 - iii. Citizenship: Zambian
 - iv. Gender: Female
 - v. Training Institution: University of Zambia
 - vi. Supervising CRSP PI: Dr. Gelson Tembo
 - vii. Degree Program for training: Master of Science
 - viii. Program Areas or Discipline: Agricultural Economics
 - ix. If enrolled at a US university, will Trainee be a “Participant Trainee” as defined by USAID? : N/A
 - x. HC Institution to Benefit from Training: University of Zambia
 - xi. Thesis Title/Research Area:
 - xii. Start Date:
 - xiii. Projected Completion Date :
 - xiv. Training status : Active
 - xv. Type of CRSP Support for training activity: Partial
 - i. First and Other Given Names: Protensia
 - ii. Last Name: Hadunka
 - iii. Citizenship: Zambian
 - iv. Gender: Male
 - v. Training Institution: University of Zambia
 - vi. Supervising CRSP PI: Dr. Gelson Tembo
 - vii. Degree Program for training: Master of Science
 - viii. Program Areas or Discipline: Agricultural Economics
 - ix. If enrolled at a US university, will Trainee be a “Participant Trainee” as defined by USAID? :N/A
 - x. HC Institution to Benefit from Training: University of Zambia
 - xi. Thesis Title/Research Area:
 - xii. Start Date:
 - xiii. Projected Completion Date:
 - xiv. Training status :Active
 - xv. Type of CRSP Support for training activity: Partial
 - i. First and Other Given Names: Kabanshi
 - ii. Last Name: Matunga
 - iii. Citizenship: Zambian
 - iv. Gender: Female
 - v. Training Institution: University of Zambia
 - vi. Supervising CRSP PI: Dr. Gelson Tembo
 - vii. Degree Program for training: Bachelors of Science
 - viii. Program Areas or Discipline: Agricultural Economics
 - ix. If enrolled at a US university, will Trainee be a “Participant Trainee” as defined by USAID? :N/A
 - x. HC Institution to Benefit from Training: University of Zambia

- xi. Thesis Title/Research Area:
 - xii. Start Date:
 - xiii. Projected Completion Date :
 - xiv. Training status :Active
 - xv. Type of CRSP Support for training activity: Partial
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- i. First and Other Given Names: Astridah
 - ii. Last Name: Munsaka
 - iii. Citizenship: Zambian
 - iv. Gender: Female
 - v. Training Institution: University of Zambia
 - vi. Supervising CRSP PI: Dr. Gelson Tembo
 - vii. Degree Program for training: Bachelors of Science
 - viii. Program Areas or Discipline: Agricultural Economics
 - ix. If enrolled at a US university, will Trainee be a “Participant Trainee” as defined by USAID? :N/A
 - x. HC Institution to Benefit from Training: University of Zambia
 - xi. Thesis Title/Research Area:
 - xii. Start Date:
 - xiii. Projected Completion Date:
 - xiv. Training status: Active
 - xv. Type of CRSP Support for training activity: Partial
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- i. First and Other Given Names: Brenda
 - ii. Last Name: Makayi
 - iii. Citizenship: Zambian
 - iv. Gender: Female
 - v. Training Institution: University of Zambia
 - vi. Supervising CRSP PI: Dr. Gelson Tembo
 - vii. Degree Program for training: Bachelors of Science
 - viii. Program Areas or Discipline: Agricultural Economics
 - ix. If enrolled at a US university, will Trainee be a “Participant Trainee” as defined by USAID? :N/A
 - x. HC Institution to Benefit from Training: University of Zambia
 - xi. Thesis Title/Research Area:
 - xii. Start Date:
 - xiii. Projected Completion Date:
 - xiv. Training status: Active
 - xv. Type of CRSP Support for training activity: Partial
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- i. First and Other Given Names: Cynthia
 - ii. Last Name: Chibebe
 - iii. Citizenship: Zambian
 - iv. Gender: Female
 - v. Training Institution: University of Zambia
 - vi. Supervising CRSP PI: Dr. Gelson Tembo
 - vii. Degree Program for training: Bachelors of Science

- viii. Program Areas or Discipline: Agricultural Economics
 - ix. If enrolled at a US university, will Trainee be a “Participant Trainee” as defined by USAID? :N/A
 - x. HC Institution to Benefit from Training: University of Zambia
 - xi. Thesis Title/Research Area:
 - xii. Start Date:
 - xiii. Projected Completion Date :
 - xiv. Training status: Active
 - xv. Type of CRSP Support for training activity: Partial
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- i. First and Other Given Names: Bwalya
 - ii. Last Name: Mwansa
 - iii. Citizenship: Zambian
 - iv. Gender: Female
 - v. Training Institution: University of Zambia
 - vi. Supervising CRSP PI: Dr. Gelson Tembo
 - vii. Degree Program for training: Bachelors of Science
 - viii. Program Areas or Discipline: Agricultural Economics
 - ix. If enrolled at a US university, will Trainee be a “Participant Trainee” as defined by USAID? :N/A
 - x. HC Institution to Benefit from Training: University of Zambia
 - xi. Thesis Title/Research Area:
 - xii. Start Date:
 - xiii. Projected Completion Date :
 - xiv. Training status: Active
 - xv. Type of CRSP Support for training activity: Partial
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- i. First and Other Given Names: Isaac
 - ii. Last Name: Sikaaswe
 - iii. Citizenship: Zambian
 - iv. Gender: Male
 - v. Training Institution: University of Zambia
 - vi. Supervising CRSP PI: Dr. Gelson Tembo
 - vii. Degree Program for training: Bachelors of Science
 - viii. Program Areas or Discipline: Agricultural Economics
 - ix. If enrolled at a US university, will Trainee be a “Participant Trainee” as defined by USAID? : N/A
 - x. HC Institution to Benefit from Training: University of Zambia
 - xi. Thesis Title/Research Area:
 - xii. Start Date:
 - xiii. Projected Completion Date :
 - xiv. Training status :Active
 - xv. Type of CRSP Support for training activity: Partial

Two students were enrolled in the Master of Agribusiness (MAB) program at Kansas State University. One student graduated this fiscal year.

- i. First and Other Given Names: Winnie
- ii. Last Name: Pele
- iii. Citizenship: Zambian
- iv. Gender: Female
- v. Training Institution: Kansas State University
- vi. Supervising CRSP PI: Vincent Amanor-Boadu
- vii. Degree Program for training: MAB
- viii. Program Areas or Discipline: Agribusiness
- ix. If enrolled at a US university, will Trainee be a “Participant Trainee” as defined by USAID?:
- x. HC Institution to Benefit from Training: University of Zambia
- xi. Thesis Title/Research Area: Consumption Patterns of Beans in Zambia
- xii. Start Date: January 5, 2013
- xiii. Projected Completion Date: May 15, 2015
- xiv. Training status: Active
- xv. Type of CRSP Support for training activity: Full

- i. First and Other Given Names: Ednah
- ii. Last Name: Kasanda
- iii. Citizenship: Zambian
- iv. Gender: Female
- v. Training Institution: Kansas State University
- vi. Supervising CRSP PI: Vincent Amanor-Boadu
- vii. Degree Program for training: MAB
- viii. Program Areas or Discipline: Agribusiness
- ix. If enrolled at a US university, will Trainee be a “Participant Trainee” as defined by USAID?:
- x. HC Institution to Benefit from Training: University of Zambia
- xi. Thesis Title/Research Area:
- xii. Start Date: January 2015
- xiii. Projected Completion Date: May 2017
- xiv. Training status: Active
- xv. Type of CRSP Support for training activity: Full

VII. Achievement of Gender Equity Goals

(Describe progress in achieving gender equity goals set for the project during the performance period.)

Nothing to report yet.

VIII. Achievement and Progress Along the Impact Pathway

(At the project planning and workplan development stage, Pls had developed an Impact Pathway identifying major outputs of your research, users of these outputs, vision of success and steps towards achieving that vision of success. In this Impact Pathway worksheets, your project had also identified strategies and action plan your team will undertake over the next 4.5 years to translate the outputs into outcomes. Provide an

update on your achievement of these strategies identified in the Impact Pathway so as to gauge your team's efforts and progress towards achieving the 'vision of success'. Discuss any constraints encountered and steps taken to mitigate them.)

The Impact Pathway Action Plan is still in effect, and the timeline has been altered for some of the research outputs designated to the host countries' students. Data collected in the DCE survey are expected to be the focus of the students' research projects and Masters thesis. There has been a steep learning curve for the students on the discrete choice experiment approach but it is expected that research outputs will pick up quickly within the first half of FY2016.

IX. Explanation for Changes *(Identify and justify all changes or inability to complete research and training activities in the FY 2015 project Workplan. If specific activities have been delayed, indicate when they will be carried out in the future and confirm that sufficient funds have been encumbered to support these activities in the future. Please be reminded that delayed activities will need to be reported in future annual project technical progress reports.)*

These following activities were delayed till FY2015:

1. Situational Analyses in Zambia;
2. Analyses of ranking and factors shaping bean/cowpeas consumption in Zambia; produce report and distribute to local USAID mission, collaborating institutions, policymakers in Zambia, Malawi, Tanzania and SADC; and
3. Complete draft of policy brief and commence distribution for comment by collaborators and interest parties.

Explanation: The reports were expected to be compilation of the research studies conducted by the host country PIs and their recruited students with additional assistance from the US PIs. Last year, Zambia encountered challenges with their subcontract, which delayed the recruitment of the students to this project. The challenges with the subcontract have since been addressed, and this year Zambia has aggressively recruited students, including six undergraduate students. It is expected that the situational analyses for Zambia will be completed by the end of the first quarter in FY2016. Since the discrete choice experiment is a relatively new approach for host country PIs and their students, the learning curve has been steeper than originally expected. The US PIs have provided guidance in the research projects and analyses whenever possible as well as provided additional training in specific data analysis on request. To ensure that the reports and policy briefs are completed in a timely manner, the US PIs, host country PIs, and recruitment students will continue to work together in a collaborative approach with the US PIs playing a more active role in the research process.

X. Self-Evaluation and Lessons-Learned

(Discuss challenges, failures and certainly successes in implementing the respective collaborative research and capacity strengthening project during FY 2015. Provide also a self-evaluation on the strength of the collaborative relationship among the team of U.S. and Host Country scientists participating in the project and suggestions for improving the effectiveness and productivity of the project. Share lessons-learned and

recommendations that might be beneficial to other projects and the Management Office for administration of the Legume Innovation Lab.)

Lesson Learned

- **Larger Training Facilities**
 - In each of the six workshops offered, we were forced to close registration and turn people away because of space limitations. We underestimated the demand for training opportunities in each of the focus countries. As we move forward with future training workshops, we need to take this demand into consideration and find locations that can accommodate larger audiences.
- **Aligning Project Outcomes and Student's Professional Development**
 - Whenever possible, work with students whose professional development depends on the success of the project. By positioning these students in leadership roles within the project activities, we are guaranteeing successful completion of the project activities as well as ensuring professional growth for those students.

XI. Scholarly Accomplishments

(Identify all publications, thesis completed, presentations, professional recognition, awards, patents and Plant Variety Protection Certificates that give evidence of scholarly accomplishments by both U.S. and Host Country scientists during the performance period. If reprints/copies are available of publications, please mail electronic to the Management Office.)

Mfikwa, A. In press. Bean Production and Marketing in Tanzania. *Tanzania Journal of Agricultural Science*.

Pele, W. K. 2015. Consumption Patterns of Beans in Zambia. Masters of Agribusiness Thesis

Ross, K.L., V. Amanor-Boadu, and L. Mapemba. *Understanding Consumer Choice for Grain Legumes: Recent Evidence from Malawi*. Paper prepared for presentation at the 90th Annual Conference, Western Economics Association International, June 28-July 2, 2015, Honolulu, Hawaii.

XII. Data Management

(In compliance with USAID standard provisions, please list all data sets generated by the LIL project that have been submitted to publically accessible data bases for archiving along with their location.)

ANNEXES:

Annex 1. Tables, Figures and Photos Cited in the Report

Annex 2. Literature Cited *(List of all literature cited in the body of the technical*

progress report.)