# Enhancing Value-Chain Performance through Improved Understanding of Consumer Behavior and Decision-Making (SO2.2)

## Lead U.S. Principal Investigator and University

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

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## I. Abstract of Research and Capacity Strengthening Achievements

During FY2013–2014, the research team designed and developed an electronic discrete choice experiment for all three target countries: Zambia, Malawi, and Tanzania. The team conducted interviews, a focus group session, and a pretest of the survey instrument to ensure inclusion of all relevant questions that correspond with our research objectives and to ensure the phrasing of the questions will lead to unbiased and informative responses. The survey instrument was revised based on feedback from the interviews, focus group sessions, and the pretest. We facilitated a discreet choice experiment training session in Zambia for our research team, collaborators, and other interested parties, such as researchers at the University of Zambia. Four of six students have been recruited by the Malawian and Tanzanian PIs to participate in this research project. Two students from Zambia are expected to be recruited into this research project by the end of 2014. One student from Zambia is enrolled in the Masters of Agribusiness program at KSU. The recruited students have started the situational analyses; completed drafts of these reports are expected by the end of 2014.

## II. Project Problem Statement and Justification

Grain legumes are not traditional staples in Zambia, Malawi, and Tanzania, despite thier significant nutritional benefits. Thus, increased consumption to support smallholder producer economic well-being must be based on a clear appreciation of how consumer characteristics and food attribute-level combinations shape consumers' decisions and choices. The fundamental problem of this project 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 that 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

**<u>Objective 1:</u> 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 complete 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 discreet 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:

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

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:

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

***Results, Achievements and Outputs of Research***

- Designed and developed an electronic discrete choice survey instrument for all three focus countries: Zambia, Malawi, and Tanzania.
- In Zambia, interviews with the target population and a focus group session were conducted 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 pretest involving experienced enumerators was conducted in January 2014 in Zambia. Feedback and suggestions for improving the survey were received and incorporated into the final survey.
- A day long training session regarding the survey and the discrete choice experiment was delivered to the Zambian enumerators in late January 2014. Although these enumerators are 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.
- U.S. PIs facilitated a multiple day training session on discrete choice experiment, specially designed for the host country PIs, collaborating partners, and other interested parties. The discrete choice experiment method has not been used by host country PIs before even though they are all extremely well versed in econometrics. A strong understanding of discrete choice experiments is needed for all members of the research team to ensure that objective 1 is completed successfully.
- The programming code for the discrete choice experiment has been developed and tested with some of the results from the pretest. Developing and validating the code beforehand helps to ensure that the data analysis will be a smooth and efficient process.
- Background research and literature reviews 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
    - Consumer Preferences for Beans in Zambia
- All three studies will investigate consumer preferences for different food types, develop the food hierarchy, and identify the socioeconomic and demographic characteristics that influence the consumption of beans.

**<u>Objective 2:</u> 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***

- The recruited students in Malawi and Tanzania are working on the following research projects, respectively:
    - "Situation analysis of production and consumption of common bean in Malawi" and
    - "Market Participation Among Smallholder Bean Farmers In Tanzania"
        - The market participation study in Tanzania will use primary data to examine the level of commercialization among smallholder bean farmers in southern Tanzania and to identify the factors that influence marketing participation.
- Similar studies are being conducted in Zambia.
- To help facilitate these analyses, computers, with analytical software installed on them, were sent to all the students and the host country PIs.
- Drafts of these final reports are expected to be completed by the end of December 2014.
- These reports are also expected to be a part of the students MS theses, which is a requirement for completing their degrees.

**<u>Objective 3:</u>** 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 begin to recruit MS students for their projects as per the workplan. Each HC PI is planning to have two MS students recruited by the beginning of the 2013/2014 academic session. At the same time, information about the Master of Agribusiness (MAB) program at KSU will be provided to the food and agribusiness communities in Zambia, Malawi, and Tanzania to begin the search for potential qualified participants in these countries for the first round of recruitment. The research partners will be primarily responsible for the process of searching for qualified candidates and work with the U.S. PIs to facilitate their recruiting.

***Results, Achievements and Outputs of Research***

- Each of the focus countries, except for Zambia, has recruited one male and one female student; Zambia has recruited one student for the Master of Agribusiness program.

- Malawian PI and his department (Department of Agricultural and Applied Economics) are actively recruiting students for the Master of Agribusiness program.
- Malawian PI and his department (Department of Agricultural and Applied Economics) have partnered with the Department of Agribusiness to train agrodealers, including members of the Association of Agribusiness Women.
    - As part of the training program, a Needs Assessment questionnaire is being developed to identify the knowledge and skills gaps and the resources and training needed to fill those gaps; training is expected to start in January 2015.
    - The U.S. and HC PIs are providing guidance and support towards this training initiative; the research team plans on developing similar needs assessment and training sessions in Tanzania and Zambia.

# IV. Major Achievements

During this reporting period, two major achievements occurred. The first achievement was the design and development of the electronic discrete choice survey instrument for all three focus countries. The second achievement was the strengthening of the relationships with upstream supply chain partners. These partners were included in the development sessions for the discrete choice experiment survey. Their involvement was crucial to the development of the survey, since they had a wealth of knowledge and expertise in bean varieties and bean attributes. These partners played an important role in determining which bean varieties to study for each of the three focus countries and which attributes and attribute levels to include in the discrete choice experiment. These partners provided expert advice and guidance and helped us to improve the quality and validity of the survey by identifying and, thus eliminating, all infeasible choice sets and options from our survey. Also, because the downstream partners were involved in the survey development, they have a clear understanding of what the output of this project will be, particularly outputs from Objective 1 and 2, and how those outputs will impact or benefit the supply chain partners. The results from the discrete choice experiment will provide empirical information for breeders to determine the characteristics and attribute sets of existing technologies that can be brought to market or what needs to be developed for specific markets and consumer profiles.

# V. Research Capacity Strengthening

**Discrete Choice Experiment Training**

This training session was specifically developed for HC PIs to enhance their capacity in discrete choice experiments and to increase their analytical skills, necessary for HC PIs to perform their responsibilities under Objective 1. The session was open to other interested parties from the university, including collaborating institutions, such as IAPRI, USAID Mission, UN Mission and WFP. The session, which was led by KSU PIs, was held in Lusaka, Zambia during the week of January 27 to January 31, 2014. In addition to our research team, researchers from the University of Zambia were in attendance at the training session. In total, seven males and four females attended the session.

**Training the Enumerators**

KSU PIs lead the first session of Training the Enumerators, which was also considered part of the research team's training on discrete choice experiments. The host country PIs had the opportunity to observe how the discrete choice experiments were introduced to the enumerators before getting a chance to help facilitate the enumerator training in Malawi and Tanzania. We expect the Zambian enumerators will also need short training session before going into the field to refamiliarize themselves with the discrete choice experiment section of the survey. We anticipate that the host country PIs will also conduct this training with the help of KSU PIs.

# VI. Human Resource and Institution Capacity Development

**Short-term Training**

***Training Activity #1***

1. **Purpose of Training:** This training program is designed for the enumerators to introduce them to and familiarize them with the discreet choice approach. Enumerators needs to familiarize themselves with the discreet choice experiment approach so that they can effectively and efficiently administer the experiment in the field as part of Objective 1.
2. **Type of Training:** Enumerator Training on Discrete Choice Experiments
3. **Country Benefiting:** Zambia
4. **Location and Dates of Training:** Lusaka, Zambia, January 31, 2014
5. **Number Receiving Training:** 14 males and 18 females
6. **Institution Providing Training or Mechanism:** Kansas State University

**Degree Training**

***Student #1***

1. **Name of Trainee:** Nyumbani Moyo
2. **Country of Citizenship:** Malawian
3. **Gender:** Male
4. **Training Institution:** Lilongwe University of Agriculture and Natural Resources (LUANAR), Bunda College, Malawi
5. **Supervising Legume Innovation Lab PI:** Dr. L. Mapemba
6. **Degree Program for Training:** Master of Science
7. **Program Areas or Discipline:** Agribusiness Management
8. **Thesis Title/Research Area:** Situation analysis of production and consumption of common bean in Malawi
9. **Start Date:** May 2014
10. **Projected Completion Date:** December 2014
11. **If enrolled at a U.S. university, will Trainee be a Participant Trainee as Defined by USAID?** No
12. **Training Status (active, completed, pending, discontinued or delayed):** Active

***Student #2***

1. **Name of Trainee:** Marynia Tumeo Mazunda
2. **Country of Citizenship:** Malawian
3. **Gender:** Female
4. **Training Institution:** Lilongwe University of Agriculture and Natural Resources, Bunda College, Malawi
5. **Supervising Legume Innovation Lab PI:** Dr. L. Mapemba
6. **Degree Program for Training:** Master of Science
7. **Program Areas or Discipline:** Agricultural and Applied Economics
8. **Thesis Title/Research Area:** Consumer Choice and Preferences for Beans in Lilongwe: A Discrete Choice Modeling Approach
9. **Start Date:** June 2014
10. **Projected Completion Date:** June 2015
11. **If enrolled at a U.S. university, will Trainee be a Participant Trainee as defined by USAID?** No
12. **Training Status (active, completed, pending, discontinued or delayed):** Active

***Student #3***

1. **Name of Trainee:** Adelina Mfikwa
2. **Country of Citizenship:** Tanzania
3. **Gender:** Female
4. **Training Institution:** Ministry of Agriculture Food Security and Cooperatives, Sokoine University of Agriculture
5. **Supervising Legume Innovation Lab PI:** Fredy T. M. Kilima
6. **Degree Program for Training:** Master of Science
7. **Program Areas or Discipline:** Agriculture Economics
8. **Thesis Title/Research Area:** Bean Production and Marketing in Tanzania
9. **Start Date:** September 2013
10. **Projected Completion Date:** August 2015
11. **If enrolled at a U.S. university, will Trainee be a Participant Trainee as defined by USAID?** No
12. **Training Status (active, completed, pending, discontinued or delayed):** Active

***Student #4***

1. **Name of Trainee:** Ocran Chengula
2. **Country of Citizenship:** Tanzania
3. **Gender:** Male
4. **Training Institution:** Ministry of Agriculture Food Security and Cooperatives, Sokoine University of Agriculture
5. **Supervising Legume Innovation Lab PI:** Fredy T. M. Kilima
6. **Degree Program for Training:** Master of Science
7. **Program Areas or Discipline:** Agriculture Economics

8. **Thesis Title/Research Area:** Market Participation Among Smallholder Bean Farmers In Tanzania
9. **Start Date:** September 2013
10. **Projected Completion Date:** August 2015
11. **If enrolled at a U.S. university, will Trainee be a Participant Trainee as defined by USAID?** No
12. **Training Status (active, completed, pending, discontinued or delayed):** Active

***Student #5***

1. **Name of Trainee:** Winnie Pele
2. **Country of Citizenship:** Zambian
3. **Gender:** Female
4. **Training Institution:** Zambia, Kansas State University
5. **Supervising Legume Innovation Lab PI:** Vincent Amanor-Boadu
6. **Degree Program for Training:** Masters of Agribusiness
7. **Program Areas or Discipline:** Agribusiness
8. **Thesis Title/Research Area:** Consumer Preferences for Beans in Zambia
9. **Start Date:** January 2013
10. **Projected Completion Date:** May 2015
11. **If enrolled at a U.S. university, will Trainee be a Participant Trainee as defined by USAID?** In process
12. **Training Status** (active, completed, pending, discontinued or delayed): Active

# VII. Achievement of Gender Equity Goals

Nothing to report, yet.

# VIII. Explanation for Changes

**The following activities were delayed until FY2015:**

1. Discrete choice experiments in Zambia
2. Analyses of ranking and factors shaping bean/cowpea consumption in Zambia; produce report and distribute to local USAID mission, collaborating institutions, policymakers in Zambia and SADC
3. Complete draft of policy brief and commence distribution for comment by collaborators and interested parties

**Explanation**

The subcontract with Zambia was delayed by the University of Zambia. This delay was an issue because Zambia was selected as the initial country for the discrete choice experiment because of the familiarity with the country from the previous project (PVCI). The research partners decided to stage the discrete choice experiments to minimize risks and increase the potential value of the outputs to create more effective impacts. This delay in signing the subcontract at UNZA affected some of the activities, primarily in Zambia. To compensate for this delay in activities, we moved forward in

developing the Malawian and Tanzanian surveys without incorporating lessons learned from the Zambian survey and developed a new survey timeline that allowed us to get back on track with our schedule. We still intend to conduct the survey in Zambia first; however, we will adjust as schedules require, if the Zambian subcontract has not been signed by the New Year. We will conduct the surveys in Malawi and Tanzania first to give Zambia more time to resolve the contracting issue. We have planned for all surveys and discrete choice experiment summary report drafts to be completed by April 2015. At that time, we will be on track with our original timeline and have achieved our targeted milestones. Short term training activities will be conducted simultaneously with the discreet choice experiments when the research team is in country. Late contracting also affected student recruitment in Zambia. It is expected that new students will be recruited and involved in the research projects, e.g., situational analysis, by the end of December 2014.

## IX. Self-Evaluation and Lessons Learned

**Lesson Learned**

Limit dependence on partner institution to facilitate activities.

- Nonresponse by partner institution and not by host country PI can create challenges, constraints, and bottlenecks within the internal processing system of the partner institution. This can result in projects being held up and stalled.
- The solution for this nonresponse by partner institution is to strength the relationship between U.S. PIs and partner institution administration. Also, it is advantageous to the success of the project to develop effective strategies that limit the dependence on the partner institution and to encourage and/or increase the institution's willingness to partner in the research project and its affiliated activities.

## X. Scholarly Accomplishments

Ross, K.L., A. Shanoyan, V. Amanor-Boadu, Y. A. Zereyesus, and G. Tembo. From Subsistence to Commercial Production: Factors Affecting Smallholder Bean and Cowpea Producers Market Participation in Zambia. Selected paper prepared for presentation at the Annual World Symposium of the International Food and Agribusiness Association, Cape Town, South Africa, June 16–17, 2014.

Chishimba, E., G. Tembo, V. Amanor-Boadu and M. Mwiinga. Factors Affecting Bean Profitability among Bean Traders in Zambia. Department of Agricultural Economics and Extension Education, the University of Zambia, Lusaka, Zambia. 2014.

## XI. Progress in Implementing Impact Pathway Action Plan

The Impact Pathway Action Plan is still in effect and the timeline has only been altered for one output due to the delay in the subcontract with Zambia. The report on food hierarchies in Zambia is expected to be completed by Quarter Three of FY2015 and published on the project and partner websites by Quarter Four of FY2015.

# XII. Milestones

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

**Report on the Achievement of "Milestones of Progress"**

**(For the Period: April 1, 2014 -- September 30, 2014)**

**This form should be completed by the U.S. Lead PI and submitted to the MO by October 1, 2014**

***Project Title:*** Enhancing Pulse Value Chain Performance

| | ***Abbreviated name of institutions*** | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | KSU | | | Zambia | | | Malawi | | | Tanzania | | | Institution 5 | | | Institution 6 | | |
| | Target | Achieved | | Target | Achieved | | Target | Achieved | | Target | Achieved | | Target | Achieved | | Target | Achieved | |
| ***Milestones by Objectives*** | **10/1/14** | **Y** | **N*** | **10/1/14** | **Y** | **N*** | **10/1/14** | **Y** | **N*** | **10/1/14** | **Y** | **N*** | **10/1/14** | **Y** | **N*** | **10/1/14** | **Y** | **N*** |
| | ***(Tick mark the time period for achieving identified milestones by institution)*** | | | | | | | | | | | | | | | | | |
| **Objective 1:** | | | | | | | | | | | | | | | | | | |
| 1.1 Case-based DCE workshop for PIs | | | | | | | | | | | | | | | | | | |
| 1.2 Conduct DCE survey in Zambia | | | | | | | | | | | | | | | | | | |
| 1.3 Analyze Zambian DCE data | | | | | | | | | | | | | | | | | | |
| 1.4 Produce Zambian DCE results report | **x** | | **x** | **x** | | **x** | **x** | | **x** | **x** | | **x** | | | | | | |
| 1.5 Conduct DCE survey in Malawi | | | | | | | | | | | | | | | | | | |
| 1.6 Conduct DCE survey in Tanzania | | | | | | | | | | | | | | | | | | |
| 1.7 Analyze DCE data from Malawi and Tanzania | | | | | | | | | | | | | | | | | | |
| 1.8 Produce DCE results report for Malawi and Zambia | | | | | | | | | | | | | | | | | | |

## Milestones, continued

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Objective 2:** | | | | | | | | | | | | | | | | | | |
| 2.0 Collecting and organizing secondary data for analyses | | | | | | | | | | | | | | | | | | |
| 2.1 Primary production situation analyses | | | | | | | | | | | | | | | | | | |
| 2.2 Primary production situation report | **x** | | **x** | x | | x | x | | x | x | | x | | | | | | |
| 2.3 Conduct industry focus group interviews in Zambia | | | | | | | | | | | | | | | | | | |
| 2.4 Conduct industry focus group interviews in Malawi | | | | | | | | | | | | | | | | | | |
| 2.5 Conduct industry focus group interviews in Tanzania | | | | | | | | | | | | | | | | | | |
| 2.6 Producer industry focus group interviews report for Zambia | | | | | | | | | | | | | | | | | | |
| 2.7 Producer industry focus group interviews report for Malawi and Tanzania | | | | | | | | | | | | | | | | | | |
| 2.8 Launch Zambia report and conduct industry workshop | | | | | | | | | | | | | | | | | | |
| 2.9 Launch Malawi and Tanzania reports and conduct industry workshops | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| **Objective 3:** | | | | | | | | | | | | | | | | | | |
| 3.1 Industry outreach programs | | | | **x** | | **x** | **x** | | **x** | **x** | | **x** | | | | | | |
| 3.2 MAB Students | | | | | | | | | | | | | | | | | | |
| 3.3 MS Students | | | | | | | | | | | | | | | | | | |
| 3.4. Facilitatation of innovative governance mechanisms | | | | | | | | | | | | | | | | | | |
| 3.5 Train the trainer programs | **x** | | **x** | **x** | | **x** | **x** | | **x** | **x** | | **x** | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| **Name of the PI responsible for reporting on milestones** | Amanor-Boadu | | | Tembo | | | Mapemba | | | Kilima | | | | | | | | |
| **Signature/Initials:** | VAB | | | GT | | | LM | | | FDK | | | | | | | | |
| **Date:** | 24-Oct-13 | | | 24-Oct-13 | | | 24-Oct-13 | | | 24-Oct-13 | | | | | | | | |

# XIII. Performance Indicators

## Zambia

**Project Name: Grain Legume Value Chain Initiative**

**Institution 1 Name (one sheet per institition): Zambia**

*** Please include any comments/explanations/data sources in the last column.*

| Indic. numbe | Output Indicators | FY 13 Target (only April 1, 2013 - September 30, 2013) | FY 13 Revised | FY 13 Actual | FY 14 Target (October 1, 2013 - September 30, 2014) | FY 14 Revised | FY 14 Actual | FY 15 Target (October 1, 2014 - September 30, 2015) | FY 15 Revised | FY 15 Actual |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 4.5.2(6) Degree Training: Number of individuals who have received degree tr | 0 | 0 | 0 | 4 | 0 | 1 | 2 | 0 | 0 |
| | Number of women | | | | **2** | | 1 | **1** | | |
| | Number of men | | | | **2** | | 0 | **1** | | |
| 2 | 4.5.2(7) Short-term Training: Number of individuals who have received short-term training | | | | | | | | | |
| | Total number | 0 | 0 | 0 | 22 | 0 | 0 | 22 | 0 | 0 |
| | Number of women | | | | 7 | | 0 | 7 | | |
| | Number of men | | | | 15 | | 0 | 15 | | |
| | Numbers by Type of individual | | | | | | | | | |
| | Producers | | | | | | | | | |
| | People in government | | | | 10 | | 0 | 10 | | |
| | People in private sector firms | | | | 3 | | 0 | 3 | | |
| | People in civil society | | | | 9 | | 0 | 9 | | |
| 3 | 4.5.2(13) Beneficiaries: (numbers of households) | | | | | | | | | |
| | New/Continuing (total) | 0 | 0 | 0 | 0 | 0 | 0 | 100 | 0 | 0 |
| | New | | | | | | | 100 | | |
| | Continuing | | | | | | | | | |
| | Gendered Household Type | | | | | | | | | |
| | Adult Female no Adult Male (FNM) | | | | | | | | | |
| | Adult Male no Adult Female (MNF) | | | | | | | | | |
| | Male and Female Adults (M&F) | | | | | | | | | |
| | Child No Adults (CNA) | | | | | | | | | |

## Zambia, continued

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **4** | 4.5.2(11) Number of food security private enterprises (for profit), producers organizations, water users associations, women's groups, trade and business associations, and community-based organizations (CBOs) receiving USG assistance | | | | | | | | | |
| | Type of organization | | | | | | | | | |
| | Private enterprises (for profit) | | | | | | | | | |
| | Producers organizations | | | | | | | | | |
| | Water users associations | | | | | | | | | |
| | Women's groups | | | | | | | | | |
| | Trade and business associations | | | | | | | | | |
| | Community-based organizations (CBOs) | | | | | | | | | |
| | New/Continuing (total) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | New | | | | | | | | | |
| | Continuing | | | | | | | | | |
| **5** | 4.5.2(12) Number of public-private partnerships formed as a result of CRSP assistance | | | | | | | | | |
| | Number by type of partnership (total) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Agricultural production | | | | | | | | | |
| | Agricultural post harvest transformation | | | | | | | | | |
| | Nutrition | | | | | | | | | |
| | Multi-focus | | | | | | | | | |
| | Other | | | | | | | | | |
| **6** | 4.5.2(2) Developmental outcomes: | | | | | | | | | |
| | Number of additional hectares under improved technologies or management practices | | | | | | | | | |
| | Number under specific technology types (total) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | crop genetics | | | | | | | | | |
| | animal genetics | | | | | | | | | |
| | pest management | | | | | | | | | |
| | disease management | | | | | | | | | |
| | soil-related | | | | | | | | | |
| | irrigation | | | | | | | | | |
| | water management | | | | | | | | | |
| | post-harvest handling and storage | | | | | | | | | |
| | processing | | | | | | | | | |
| | climate mitigation or adaptation | | | | | | | | | |
| | fishing gear/technique | | | | | | | | | |
| | other | | | | | | | | | |
| | total w/one or more improved technology | | | | | | | | | |
| | New/Continuing hectares | | | | | | | | | |
| | New | | | | | | | | | |
| | Continuing | | | | | | | | | |
| | Sex of person managing hectare | | | | | | | | | |
| | Male | | | | | | | | | |
| | Female | | | | | | | | | |
| | Association-applied | | | | | | | | | |

## Zambia, continued

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **7** | 4.5.2(39) Number of new technologies or management practices in one of the following phases of development: (Phase I/II/III) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Phase 1: Number of new technologies or management practices under research as a result of USG assistance | | | | | | | | | |
| | Phase 2: Number of new technologies or management practices under field testing as a result of USG assistance | | | | | | | | | |
| | Phase 3: Number of new technologies or management practices made available for transfer as a result of USG assistance | | | | | | | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **8** | 4.5.1(24) Numbers of Policies/Regulations/Administrative Procedures in each of the following stages of development as a result of USG assistance in each case: (Stage 1/2/3/4/5) | | | | | | | | | |
| | Sector (total) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Inputs | | | | | | | | | |
| | Outputs | | | | | | | | | |
| | Macroeconomic | | | | | | | | | |
| | Agricultural sector-wide | | | | | | | | | |
| | Research, extension, information, and other public service | | | | | | | | | |
| | Food security/vulnerable | | | | | | | | | |
| | Climate change adaptation or natural resource management (NRM) (ag-related) | | | | | | | | | |
| | Stages of development | | | | | | | | | |
| | Stage 1 of 5: Number of policies / regulations / administrative procedures analyzed | | | | | | | | | |
| | Stage 2 of 5: Number of policies / regulations / administrative procedures drafted and presented for public/stakeholder consultation | | | | | | | | | |
| | Stage 3 of 5 : Number of policies / regulations / administrative procedures presented for legislation/decree | | | | | | | | | |
| | Stage 4 of 5 Number of policies / regulations / administrative procedures prepared with USG assistance passed/approved | | | | | | | | | |
| | Stage 5 of 5: Number of policies / regulations / administrative procedures passed for which implementation has begun | | | | | | | | | |

**Notes:**

These indicators are developed under the Feed the Future Monitoring System. Please provide 'total' numbers and also disaggregate where applicable. Just providing 'totals' will not be approved.

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There is additional guidance on the USAID website http://feedthefuture.gov/sites/default/files/resource/files/ftf_handbookindicators_apr2012.pdf

## Malawi

**Project Name: Grain Legume Value Chain Initiative**

**Institution 2 Name (one sheet per institition): Malawi**

*** Please include any comments/explanations/data sources in the last column.*

| Indic. numbe | Output Indicators | FY 13 Target (only April 1, 2013 - September 30, 2013) | FY 13 Revised (only April 1, 2013 - September 30, 2013) | FY 13 Actual (only April 1, 2013 - September 30, 2013) | FY 14 Target (October 1, 2013 - September 30, 2014) | FY 14 Revised (October 1, 2013 - September 30, 2014) | FY 14 Actual (October 1, 2013 - September 30, 2014) | FY 15 Target (October 1, 2014 - September 30, 2015) | FY 15 Revised (October 1, 2014 - September 30, 2015) | FY 15 Actual (October 1, 2014 - September 30, 2015) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 4.5.2(6) Degree Training: Number of individuals who have received degree tr | 0 | 0 | 0 | 2 | 0 | 2 | 4 | 0 | 0 |
| | Number of women | | | | 1 | | 1 | 1 | | |
| | Number of men | | | | 1 | | 1 | 3 | | |
| 2 | 4.5.2(7) Short-term Training: Number of individuals who have received short-term training | | | | | | | | | |
| | Total number | 0 | 0 | 0 | 25 | 0 | 0 | 25 | 0 | 0 |
| | Number of women | | | | 10 | | 0 | 10 | | |
| | Number of men | | | | 15 | | 0 | 15 | | |
| | Numbers by Type of individual | | | | | | | | | |
| | Producers | | | | 5 | | 0 | 5 | | |
| | People in government | | | | 10 | | 0 | 10 | | |
| | People in private sector firms | | | | 3 | | 0 | 3 | | |
| | People in civil society | | | | 7 | | 0 | 7 | | |
| 3 | 4.5.2(13) Beneficiaries: (numbers of households) | | | | | | | | | |
| | New/Continuing (total) | 0 | 0 | 0 | 0 | 0 | 0 | 100 | 0 | 0 |
| | New | | | | | | | 100 | | |
| | Continuing | | | | | | | | | |
| | Gendered Household Type | | | | | | | | | |
| | Adult Female no Adult Male (FNM) | | | | | | | | | |
| | Adult Male no Adult Female (MNF) | | | | | | | | | |
| | Male and Female Adults (M&F) | | | | | | | | | |
| | Child No Adults (CNA) | | | | | | | | | |

## Malawi, continued

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **4** | 4.5.2(11) Number of food security private enterprises (for profit), producers organizations, water users associations, women's groups, trade and business associations, and community-based organizations (CBOs) receiving USG assistance | | | | | | | | | |
| | Type of organization | | | | | | | | | |
| | Private enterprises (for profit) | | | | | | | | | |
| | Producers organizations | | | | | | | | | |
| | Water users associations | | | | | | | | | |
| | Women's groups | | | | | | | | | |
| | Trade and business associations | | | | | | | | | |
| | Community-based organizations (CBOs) | | | | | | | | | |
| | New/Continuing (total) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | New | | | | | | | | | |
| | Continuing | | | | | | | | | |
| **5** | 4.5.2(12) Number of public-private partnerships formed as a result of CRSP assistance | | | | | | | | | |
| | Number by type of partnership (total) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Agricultural production | | | | | | | | | |
| | Agricultural post harvest transformation | | | | | | | | | |
| | Nutrition | | | | | | | | | |
| | Multi-focus | | | | | | | | | |
| | Other | | | | | | | | | |
| **6** | 4.5.2(2) Developmental outcomes: | | | | | | | | | |
| | Number of additional hectares under improved technologies or management practices | | | | | | | | | |
| | Number under specific technology types (total) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | crop genetics | | | | | | | | | |
| | animal genetics | | | | | | | | | |
| | pest management | | | | | | | | | |
| | disease management | | | | | | | | | |
| | soil-related | | | | | | | | | |
| | irrigation | | | | | | | | | |
| | water management | | | | | | | | | |
| | post-harvest handling and storage | | | | | | | | | |
| | processing | | | | | | | | | |
| | climate mitigation or adaptation | | | | | | | | | |
| | fishing gear/technique | | | | | | | | | |
| | other | | | | | | | | | |
| | total w/one or more improved technology | | | | | | | | | |
| | New/Continuing hectares | | | | | | | | | |
| | New | | | | | | | | | |
| | Continuing | | | | | | | | | |
| | Sex of person managing hectare | | | | | | | | | |
| | Male | | | | | | | | | |
| | Female | | | | | | | | | |
| | Association-applied | | | | | | | | | |

## Malawi, continued

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **7** | 4.5.2(39) Number of new technologies or management practices in one of the following phases of development: (Phase I/II/III) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Phase 1: Number of new technologies or management practices under research as a result of USG assistance | | | | | | | | | |
| | Phase 2: Number of new technologies or management practices under field testing as a result of USG assistance | | | | | | | | | |
| | Phase 3: Number of new technologies or management practices made available for transfer as a result of USG assistance | | | | | | | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **8** | 4.5.1(24) Numbers of Policies/Regulations/Administrative Procedures in each of the following stages of development as a result of USG assistance in each case: (Stage 1/2/3/4/5) | | | | | | | | | |
| | Sector (total) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Inputs | | | | | | | | | |
| | Outputs | | | | | | | | | |
| | Macroeconomic | | | | | | | | | |
| | Agricultural sector-wide | | | | | | | | | |
| | Research, extension, information, and other public service | | | | | | | | | |
| | Food security/vulnerable | | | | | | | | | |
| | Climate change adaptation or natural resource management (NRM) (ag-related) | | | | | | | | | |
| | Stages of development | | | | | | | | | |
| | Stage 1 of 5: Number of policies / regulations / administrative procedures analyzed | | | | | | | | | |
| | Stage 2 of 5: Number of policies / regulations / administrative procedures drafted and presented for public/stakeholder consultation | | | | | | | | | |
| | Stage 3 of 5 : Number of policies / regulations / administrative procedures presented for legislation/decree | | | | | | | | | |
| | Stage 4 of 5 Number of policies / regulations / administrative procedures prepared with USG assistance passed/approved | | | | | | | | | |
| | Stage 5 of 5: Number of policies / regulations / administrative procedures passed for which implementation has begun | | | | | | | | | |

**Notes:**

These indicators are developed under the Feed the Future Monitoring System. Please provide 'total' numbers and also disaggregate where applicable. Just providing 'totals' will not be approved.

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There is additional guidance on the USAID website http://feedthefuture.gov/sites/default/files/resource/files/ftf_handbookindicators_apr2012.pdf

## Tanzania

**Project Name: Grain Legume Value Chain Initiative**

**Institution 3 Name (one sheet per institition): Tanzania**

*** Please include any comments/explanations/data sources in the last column.*

| Indic. numbe | Output Indicators | FY 13 Target (only April 1, 2013 - September 30, 2013) | FY 13 Revised | FY 13 Actual | FY 14 Target (October 1, 2013 - September 30, 2014) | FY 14 Revised | FY 14 Actual | FY 15 Target (October 1, 2014 - September 30, 2015) | FY 15 Revised | FY 15 Actual |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 4.5.2(6) Degree Training: Number of individuals who have received degree tr | 0 | 0 | 0 | 2 | 0 | 2 | 2 | 0 | 0 |
| | Number of women | | | | 1 | | 1 | 1 | | |
| | Number of men | | | | 1 | | 1 | 1 | | |
| 2 | 4.5.2(7) Short-term Training: Number of individuals who have received short-term training | | | | | | | | | |
| | Total number | 0 | 0 | 0 | 20 | 0 | 0 | 20 | | 0 |
| | Number of women | | | | 10 | 0 | 0 | 10 | | |
| | Number of men | | | | 10 | 0 | 0 | 10 | | |
| | Numbers by Type of individual | | | | | | | | | |
| | Producers | | | | | | | | | |
| | People in government | | | | 10 | 0 | 0 | 10 | | |
| | People in private sector firms | | | | 3 | 0 | 0 | 3 | | |
| | People in civil society | | | | 7 | 0 | 0 | 7 | | |
| 3 | 4.5.2(13) Beneficiaries: (numbers of households) | | | | | | | | | |
| | New/Continuing (total) | 0 | 0 | 0 | 0 | 0 | 0 | 100 | 0 | 0 |
| | New | | | | | | | 100 | | |
| | Continuing | | | | | | | | | |
| | Gendered Household Type | | | | | | | | | |
| | Adult Female no Adult Male (FNM) | | | | | | | | | |
| | Adult Male no Adult Female (MNF) | | | | | | | | | |
| | Male and Female Adults (M&F) | | | | | | | | | |
| | Child No Adults (CNA) | | | | | | | | | |

## Tanzania, continued

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **4** | 4.5.2(11) Number of food security private enterprises (for profit), producers organizations, water users associations, women's groups, trade and business associations, and community-based organizations (CBOs) receiving USG assistance | | | | | | | | | |
| | Type of organization | | | | | | | | | |
| | Private enterprises (for profit) | | | | | | | | | |
| | Producers organizations | | | | | | | | | |
| | Water users associations | | | | | | | | | |
| | Women's groups | | | | | | | | | |
| | Trade and business associations | | | | | | | | | |
| | Community-based organizations (CBOs) | | | | | | | | | |
| | New/Continuing (total) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | New | | | | | | | | | |
| | Continuing | | | | | | | | | |
| **5** | 4.5.2(12) Number of public-private partnerships formed as a result of CRSP assistance | | | | | | | | | |
| | Number by type of partnership (total) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Agricultural production | | | | | | | | | |
| | Agricultural post harvest transformation | | | | | | | | | |
| | Nutrition | | | | | | | | | |
| | Multi-focus | | | | | | | | | |
| | Other | | | | | | | | | |
| **6** | 4.5.2(2) Developmental outcomes: | | | | | | | | | |
| | Number of additional hectares under improved technologies or management practices | | | | | | | | | |
| | Number under specific technology types (total) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | crop genetics | | | | | | | | | |
| | animal genetics | | | | | | | | | |
| | pest management | | | | | | | | | |
| | disease management | | | | | | | | | |
| | soil-related | | | | | | | | | |
| | irrigation | | | | | | | | | |
| | water management | | | | | | | | | |
| | post-harvest handling and storage | | | | | | | | | |
| | processing | | | | | | | | | |
| | climate mitigation or adaptation | | | | | | | | | |
| | fishing gear/technique | | | | | | | | | |
| | other | | | | | | | | | |
| | total w/one or more improved technology | | | | | | | | | |
| | New/Continuing hectares | | | | | | | | | |
| | New | | | | | | | | | |
| | Continuing | | | | | | | | | |
| | Sex of person managing hectare | | | | | | | | | |
| | Male | | | | | | | | | |
| | Female | | | | | | | | | |
| | Association-applied | | | | | | | | | |

## Tanzania, continued

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **7** | 4.5.2(39) Number of new technologies or management practices in one of the following phases of development: (Phase I/II/III) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Phase 1: Number of new technologies or management practices under research as a result of USG assistance | | | | | | | | | |
| | Phase 2: Number of new technologies or management practices under field testing as a result of USG assistance | | | | | | | | | |
| | Phase 3: Number of new technologies or management practices made available for transfer as a result of USG assistance | | | | | | | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **8** | 4.5.1(24) Numbers of Policies/Regulations/Administrative Procedures in each of the following stages of development as a result of USG assistance in each case: (Stage 1/2/3/4/5) | | | | | | | | | |
| | Sector (total) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Inputs | | | | | | | | | |
| | Outputs | | | | | | | | | |
| | Macroeconomic | | | | | | | | | |
| | Agricultural sector-wide | | | | | | | | | |
| | Research, extension, information, and other public service | | | | | | | | | |
| | Food security/vulnerable | | | | | | | | | |
| | Climate change adaptation or natural resource management (NRM) (ag-related) | | | | | | | | | |
| | Stages of development | | | | | | | | | |
| | Stage 1 of 5: Number of policies / regulations / administrative procedures analyzed | | | | | | | | | |
| | Stage 2 of 5: Number of policies / regulations / administrative procedures drafted and presented for public/stakeholder consultation | | | | | | | | | |
| | Stage 3 of 5 : Number of policies / regulations / administrative procedures presented for legislation/decree | | | | | | | | | |
| | Stage 4 of 5 Number of policies / regulations / administrative procedures prepared with USG assistance passed/approved | | | | | | | | | |
| | Stage 5 of 5: Number of policies / regulations / administrative procedures passed for which implementation has begun | | | | | | | | | |

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