Expanding Pulse Supply and Demand in Africa and Latin America: Identifying Constraints and New Strategies

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Abstract of Research Achievements and Impacts
Angola. Markets were visited, a market enumerator was trained. In March 2009, Chaves began his MS studies at Vicosa. Before departing, he visited bean value chain actors (Huambo area) & developed a preliminary value chain diagnosis. Chaves will develop his thesis proposal in late-2009 with Donovan and his Vicosa advisor, using price information & value chain data. Donovan worked with WV on a smallholder survey & identified survey areas with bean marketing. The report from the smallholder survey (WV ProRenda project) is drafted & being edited. UAN students conducted household surveys in 2 zones of Huambo Province to understand smallholder production/marketing systems, are analyzing the data, and are writing their Licenciatura--Kiala supervised the research design, Donovan provided input.

Mozambique. Due to staff changes at SIMA, the draft report is only partially (to be completed in late 2009). The spatial analysis will be completed when the cleaned time series data are available SIMA price data analysis will be included in the rapid appraisal report. Research was conducted using rapid appraisal and key informant interviews. A draft report was prepared--more information is needed before beginning outreach/developing a stakeholders group. The MS student begun her studies at Pretoria; has developed a draft thesis proposal. With information from last year’s rapid appraisal & price data collected through SIMA, she will have an excellent data set for her research. Having Donovan in country will be valuable in moving forward this research. Honduras. Organic/sustainable practice certifiers were initially contacted as fair trade bean certification was not available. FLO recently established standards, so TransFair USA was contacted; requirements for fair trade beans were obtained. A workshop in Yojoa Lake region identified farmers’ organic practices. Results of trials (organic vs conventional) in several regions depended on farmers’ fertilizers/pesticides levels--organic practices are good alternatives, given similar yields & raising fertilizers/pesticides costs. A meeting(s) with ARSAGRO/CIALs outlined project goals. Constraints include: CIALs farmers have small plots or rent land; ARSAGRO farmers had better land, but are less interested unless facilitated by a large investment of funds. A meeting at Rojitos obtained information on cleaning/exporting costs & a bean export embargo. At a meeting with SAG/DICTA, the PIs learned that farmer organizations can export by applying to SAG. A meeting with APHIS/Honduran identified US export inspection requirement.

Project Problem Statement and Justification
Markets are critical to farmer adoption of new technologies and management practices, as they offer farmers an opportunity to specialize and take advantage of comparative advantage to capture gains from trade. Market-oriented pulse production depends on many factors in addition to technology, including the level of pulse prices and price risk, quantity premia/discounts, and the cost of bringing products to market. These factors are influenced by the level of market infrastructure and public and private
institutions, including enforceable contracts (to reduce risk), formal grading systems, the availability of price information, the ability of farmers to reduce transaction costs via membership in an association, and the physical proximity of markets. Pulse markets in Angola, Mozambique, and Honduras present a continuum in terms of the level of market infrastructure. Angola is characterized as having minimal price information, low yields/production, unpredictable market channels, and poor quality although improving infrastructure. Mozambique is characterized by a relatively effective market information system, low yields/production, and some farmer organizations, but minimal production for markets (market participation) due to a lack of information on quantity/demand. In contrast, Honduras is characterized by an effective market information system, strong farmer organizations, widespread adoption of improved bean varieties, market-oriented production, and a potential to produce for specialty/niche markets. The proposed action research will help to better understand how different levels of market development affect incentives for technology adoption—a ladder of learning. A key priority of the research is to expand market opportunities and accelerate the transformation from semi-subsistence to commercial farming.

Minimal research has been conducted to identify constraints and opportunities to expanding market participation in the three countries, which is the focus of this project.

**Angola:** Improving smallholder productivity and marketed surplus is a key element of the Government of Angola’s (GOA) poverty reduction strategy. Expanding bean/cowpea production is key to the strategy’s success, since they are the country’s most important legume crops (370,000 ha), are grown throughout the country, and have been identified by the government as high potential crops. Currently, imports are required to meet demand, as demand exceeds domestic production. Smallholders are in the process of shifting from subsistence to more market-oriented production and the GOA is making investments in developing markets. This project contributes to these efforts.

**Mozambique:** Beans/cowpeas, the most important legume crops after peanuts, have considerable production potential. The Ministry of Agriculture’s (MINAG) development strategy recognizes the importance of strengthening value chains for market-led development. Bean/cowpea production flow into different marketsheds, each with different consumer preferences. However, consumer preferences of the different markets are not well documented. To date, little work had been done to improve the market performance and the sustainability of dry pulse value chains, which are the foci of this proposal.

**Honduras:** Common beans, the second most important food crop (95,000 ha) after maize, are an important source of cash income for smallholders. However, typically most smallholders sell their surpluses to traders at the farmgate and receive low prices. With the recent ratification of CAFTA, bean imports are expected to increase, thereby reducing bean prices and farmers’ incomes. Smallholders need new markets that will add value to their crop. This project focuses on developing a new market opportunity for smallholders—producing and exporting organic fair trade beans to the US market.

**Planned Project Activities for April 1, 2008 - September 30, 2009**

**Objective 1: Angola** - This project component has 4 sub-objectives: sub-objective 1.1: summarize secondary data on bean/cowpea production and marketing, including the identification of gaps to guide future research; sub-objective 1.2: identify production areas, marketing channels, and marketing margins; and sub-objective 1.3: identify constraints, opportunities, and potential pilot interventions to improve competitiveness.

**Approaches and Methods:**

*Objective 1.1: Visit Key Informants to Identify Information and Data Sources*
Visit key informants in order to identify information and data sources. This includes public sector agents for production and areas in beans/cowpeas. Collect/analyze secondary information to document trends in production, marketing, trade, consumption, etc., and identify information gaps

**Objective 1.2:** Interview Key Subsector Participants to Develop a Value Chain Diagnosis

Interview key subsector participants (e.g., agricultural scientists, traders, processors, importers/exporters, NGOs) to develop a value chain diagnosis, plus information needed to improve performance and identify constraints to subsector growth.

**Objective 1.3:** Conduct a Smallholder Survey

Undertake a smallholder survey under the World Vision Smallholder Horticultural Value Chain Development project. It is anticipated that the student will participate, with C. Donovan as design consultant for World Vision. The survey will include information on farmer characteristics and practices, including marketing strategies, trade, and transport—thereby documenting linkages between farmers and markets.

**Results, Achievements and Outputs of Research**

**Objective 1.1:** Visit Key Informants to Identify Information and Data Sources

After delays due to visa problems, Donovan traveled to Angola in late 2008 and worked with MS student Chavez. Several markets were visited and Chaves identified and trained a market enumerator, who has continued to collect price information during Chaves’s studies in Brazil.

**Objective 1.2:** Interview Key Subsector Participants to Develop a Value Chain Diagnosis

Prior to departure, Chaves visited with various actors in the bean value chain in Huambo area. He developed a preliminary value chain diagnosis, but will need to revisit the area for further diagnostics. The MS thesis proposal is still being developed, as the student arrived late (in March 2009) at University of Vicosa. According to the study plans at Vicosa, Chaves will be developing his thesis proposal in late 2009, when he has more of the studies completed and a better grasp of the available research methods. Meanwhile, price data are being collected in Angola and should be useful for the thesis. Chaves’s MS thesis proposal has not yet been completed due to delays in enabling the student to begin studies in Brazil. The proposal entails work with his designated advisor in Brazil and that will occur in the coming semester.

**Objective 1.3:** Conduct a Smallholder Survey

In early 2009, Donovan again traveled to Angola and worked with World Vision staff on smallholder surveying, and identification of survey areas, including areas known to have bean marketing. Given the lack of an agricultural census and lack of agricultural surveys in Angola, identifying survey areas was based on rapid assessments and key informant interviews. This new survey is one of the first in Angola in the post-war period to collect information on agricultural production and marketing.

The baseline document from the small holder survey with World Vision ProRenda project is drafted but undergoing edits. As noted earlier, there were delays in data entry and data verification. These delays are understandable given that the enumerators and data entry staff were all new to the work and so extensive training was needed, followed up by careful checking of data. About 60 percent of the households in the zones under study produce beans and it is the major income source for farmers in the ProRenda target zones. Women farmers tend to get higher prices for the beans that they sell, resulting in higher total revenues, even though they produced an average of only 112 kilograms, selling 75% of production compared to 314 kilograms produced among males, and 86% is sold.

In addition, due to the delays in obtaining the WV household survey data, two students at UAN conducted limited household surveys in two zones of Huambo Province, to understand smallholder production and
marketing systems in depth, while gaining greater experience in field survey data collection. Kiala supervised the development of the research for their “Licenciatura” degrees, Donovan provided input, and the students are currently analyzing data and writing up the research. The CRSP funded their field research through funds to UAN, and we expect the draft reports in the next semester.

**Objective 2: Mozambique** - This project component has 3 sub-objectives: Sub-objective 2.1: analyze spatial and temporal patterns of bean/cowpea production and marketing, using national survey data (TIA), disaggregated by gender; Sub-objective 2.2: map market sheds for bean/cowpea production areas, document market preferences and work with breeders to test varieties with desirable market characteristics to improve competitiveness and spur adoption of improved bean/cowpea varieties; and Sub-objective 2.3: undertake econometric analysis of the determinants of market participation by producing households, including sex of household head as an explanatory variable.

**Approaches and Methods:**

**Objective 2.1: Multidisciplinary Action Research, Spacial and Temporal Analysis, and Institutional Capacity Building**

During the first 18 months, the project will implement a multidisciplinary action research approach that engages stakeholders from public and private sectors and NGOs. This research approach includes the development of a working group across sectors. Researchers will assess with partners the development of a formal Bean/Cowpea Task Force, if the stakeholders support and commit their time and efforts, but at the very least, an informal bean/cowpea task force will be brought together as a working group. The task force will have input into the design of the activities and receive regular feedback on findings. The task force will be relevant for all objectives.

Spatial and temporal analysis of existing national agricultural survey databases will be carried out and the production and marketing data will be presented tables and in the form of maps using GIS. The tables for the descriptive analysis will be specified jointly by PI from MSU and IIAM/CESE with the participation of the staff from SIMA. The PI/IIAM will be responsible in carrying out the statistical analysis. The GIS mapping will be led by the PI from MSU with on the job training of CESE staff. Report write-up will be led by the PI from MSU with participation of PI from IIAM. Production of the policy brief will be under the responsibility of the PI from IIAM.

Institutional capacity building will take the form of on-job training of two staff from CESE and two from SIMA to gain skill in using statistical package STATA for descriptive analysis of survey data and in the use of GIS to present results in maps. The on-job training will be provided by MSU staff.

**Objective 2.2: Multidisciplinary Action Research**

This objective will be met using the previously described multidisciplinary action research approach with the task force--including focus group discussions with smallholders and field observations in the main agro-ecologies, as well as a rapid appraisal of markets during the major marketing season. Focus group discussions will also solicit detailed information about bean/cowpea production and access to input and output markets. The rapid appraisal will focus on marketing channels and margins. Through focus group discussions with producers and traders, relevant constraints and opportunities will be identified; and potential pilot interventions will be identified and prioritized to improve competitiveness of beans and cowpeas in the principal production agro-ecologies. Existing marketing channels and marketing margins will be documented.

The focus group discussion will be facilitated by staff from IIAM/CESE with backstopping from PI from MSU. The rapid appraisal of markets will be led by staff from SIMA with backstopping by the PI from MSU.
Institutional capacity building will take the form of in-service training on focus group discussion methods and rapid appraisal and will benefit staff from CESE, SIMA and IIAM Zonal Research Centers.

**Objective 2.3: Participant Training and Organization of Data Set**

During the first 18 months of the project, it was initially proposed that: a) a participant trainee (IIAM/CESE staff member) would be enrolled at MSU to pursue MS degree program in Agricultural Economics at MSU. During his/her degree program s/he would acquire skills to undertake sophisticated econometric analysis using appropriate and relevant statistical packages; and b) the participant trainee would organize existing household survey data and, if needed, conduct fieldwork to gather additional data to perform the econometric analysis (MS thesis).

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

**Objective 2.1: Multidisciplinary Action Research, Spacial and Temporal Analysis, and Institutional Capacity Building**

Due to staffing changes at the market information service (SIMA), the analysis and draft report are delayed and only partially completed. There were 38 traders of vulgar beans (known locally as “feijao manteiga”) interviewed, buying a median of 343 kilograms per day. Another 8 traders were interviewed who deal with pigeon peas, buying a median of 122 kilograms per day. Pigeon peas are not as commonly marketed for retail sales as are vulgar beans. For the majority of traders, vulgar beans and pigeon peas were minor crops, as opposed to the major crop for marketing. With Donovan now based in Mozambique, this work will be completed by the end of 2009. The spatial analysis (by province) using simple tables will be completed as soon as the cleaned time series data through 2008 on production and other aspects are available from the Directorate of Economics of MINAG. The SIMA price data analysis will be included in the Rapid Appraisal Report, as the data are already compiled for the various markets.

**Objective 2.2: Multidisciplinary Action Research**

In Mozambique, field research was conducted using rapid appraisal and key informant interview. The draft report needs more complete information. Only then can the outreach occur and the stakeholders group be developed with concrete evidence. The desire is to use the documents as a basis for the meetings indicated under this objective, as previous efforts with task forces for other commodities have identified the need to begin work with an information base in hand. As with Objective 1, having Donovan in country to work with Mozambique PI will be valuable to move forward in the coming semester. This objective, including the Task Force implementation, remains a key one for all the parties involved.

**Objective 2.3: Participant Training and Organization of Data Set**

The MS student had begun her studies at the University of Pretoria, has a designated advisor there, and a draft study and research plan. She will move forward on jointly developing the research proposal with him and CRSP collaborators. The 2008 TIA (household) data are only now available and combined with information from last year’s rapid appraisal and the price data collected through the market information system, SIMA, she will has an excellent set of data for her research.

**Objective 3: Honduras** - This project component has 4 sub-objectives for this period. The sub-objectives in the current workplan are the following: sub-objective: 3.1) identify markets in the US for organic fair trade common beans, including the grades and standards required by these markets; 3.2) validate via field trails existing agronomic recommendations for growing organic beans; 3.3) identify interested smallholders and train the farmers to produce organic beans that meet the grades and standards required by US retailers; 3.4) establish local market linkages required for small-scale bean farmers to export organic fair trade beans to US markets.
Approaches and Methods:

Objective 3.1: Identification of Organic Fair Trade Bean Markets in the US

During the first 18 months of the project, key informant interviews and web searches will identify agents involved in international and domestic bean markets in the US. Researchers will contact US distributors/retailers of organic/fair trade commodities to identify interested buyers, determine required grades and standards, and negotiate purchase commitments.

Objective 3.2: Identification of Organic Methods for Producing Beans

During the first 18 months of the project, EAP researchers will identify organic production methods that meet international standards for organic production and test these methods via on-farm trials. Such aspects as IPM and soil fertility enhancements with organic improvements will be included.

Objective 3.3: Identification of Farmer Groups to Produce Organic Beans

During the first 18 months of the project, EAP researchers will use identify interested farmer groups (CIALs) and collaborating NGO interested in growing organic beans and train them on organic bean production methods.

Objective 3.4: Identification of Private Sector Agents

During the first 18 months of the project, private sector participants will be identified who are interested in participating in the project.

Results, Achievements and Outputs of Research:

Objective 3.1: Identification of Organic Fair Trade Bean Markets in the US

Initial contacts have been made with potential buyers/retailers of organic beans produced in Honduras, including Whole Foods, Sam’s Club, United Natural Foods, and Alter-Eco—all retailers/distributors of organic and/or fair trade food products. However, given the delay in initiating the organic field trials (due to the delayed availability of funding) the project is still in the process of assessing the feasibility of producing organic dry beans. In addition, while two farmers groups initially expressed interest in growing organic beans, one of the groups is now hesitant about participating in the initiative and the other group may not have the capacity to produce organic beans (see 3.3 below). Thus, these constraints need to be addressed, before recontacting potential US retailers to negotiate supply contracts.

During the first 6 months of the project, contact were made with potential third-party certifiers, including ECOHONDURAS (a firm associated with Guatemalan-based MAYACERT which could provide USDA-approved organic certification) and the Rainforest Alliance’s local third-party certifier (ICADE), which could provide certification that the farmers are using sustainable practices—a type of certification that is recognized by some US retailers as a substitute for fair trade certification.

Regarding fair trade certification, TransFair USA is the only US certifier of fair trade food products. During the first 6 months of the project, it was not possible to obtain TransFair USA certification for dry beans because standards had not been established for dry beans. However, in recent months, the international Fair Trade Labeling organization (FLO) has established standards for dry beans, which makes it possible for TransFair USA to certify dry beans. TranFair USA has been contacted and information has been obtained, regarding protocols that are required to certify dry beans, via FLO’s representative in Honduras. As fair trade certification does not require the use of organic production methods, this may be a more promising option for the project to pursue.
Objective 3.2: Identification of Organic Methods for Producing Beans
During this period, practices most commonly used by small farmers on their crops and those recommended in the literature were identified. A workshop with farmers from the Yojoa Lake region was held in 2008 to identify and document the organic practices most commonly used by farmers; nine farmers from CIALs and two technicians from the Rural Reconstruction Program (PRR), our NGO collaborator in this region, participated in this event. A document with the organic practices was developed. The common practices include the preparation and use of organic fertilizers such as compost and bokashi, and natural pesticides from neem, madreado (Glyricidia sepium) and other plants, and manure ash, lime and other materials. Biological control of pests with already available products was identified as promising by farmers and some were already testing some of these products (Trichoderma, Beauveria). Also, the use of rhizobium and mycorrhizae inoculation was suggested.

Field trials to compare organic vs conventional bean production using farmer practices, identified as ECOFRIJOL trials, were conducted during 2008-09 at different sites from the east central region with farmers from ARSAGRO and at the Yojoa Lake and Yorito regions in collaboration with CIALs. Results were variable depending of the level of fertilizers and pesticides used as conventional practices by farmers. In those sites were farmers use very low inputs, the organic practices gave good results increasing bean productivity. In those sites were farmers use inputs (chemical fertilizers and pesticides) yield was rather similar or less than conventional practices; however, organic practices are considered as a good alternative because of the raising costs of fertilizers and pesticides and the similar productivity observed in organic plots.

Objective 3.3: Identification of Farmer Groups to Produce Organic Beans
During this period meetings were held with the leaders and farmer members of ARSAGRO--one of the largest bean farmer associations in Honduras, based in Danli. The PIs outlined the goals of the project, including the requirements that the beans be grown in accordance with organic and sustainable production practices. The association members noted that Danli was a good place to grow beans and expressed interest in participating in the project. In addition to the area being a good bean-growing environment, the association recently built a new processing/bagging facility. The association is a major player in domestic
bean marketing (previously making large sales to Horti Fruti/Walmart-Honduras) and has previous made export sales to traders. We have also met with CIALs (farmer groups involved in participatory plant breeding activities) which have expressed a good level of interest in getting involved in organic bean production.

There are two contrasting issues depending of the type of farmer group and its members. Small and poor farmers from the hillsides of the Yojoa Lake and Yorito, with very small plots to cultivate or landless farmers that have to rent land season by season, are interested in using organic practices to improve bean productivity with some practices already being implemented by some farmers. In contrast, farmers from the large organization ARSAGRO with better land and access to fertilizer and pesticides are less interested in getting involved in organic farming of beans unless the process is facilitated by the project which would required a larger investment of funds. Both groups have participated in training activities offered by the project and in conducting the organic bean ECOFRIJOL trial.

Objective 3.4: Identification of Private Sector Agents
During February 2009, the PIs again met with the Michael Hawit and Ms. Kira Hasbun, who noted the recent volatility of Honduran bean prices, provided details on costs related to transporting, cleaning, and shipping/exporting beans to Houston, and mentioned a US-based distributor who might be interested in importing specialty beans (i.e., certified as organic, sustainably produced, fair trade). Mr. Hawit also noted that because each year, the Government of Honduras places an export embargo on beans, it would not be possible to export beans to the US unless a waiver is obtained. In a meeting with Eduardo Carrasco, owner of one of Honduras’ largest bean wholesalers/exporter (typically exporting 16 containers of 20 MT/month), we learned that during the past year he had exported few beans, due to the closure of the border. Subsequently, the PI’s met with Arturo Galo (Director of SAG/DICTA), who reported that Honduras did not have an embargo on bean exports—rather, it was only issuing phytosanitary certification (required for exporting) to farmer cooperatives—not to private brokers/traders. Galo assured us that the Ministry of Agriculture (SAG) would allow the project to export beans, if a farmer association initiated a request to SAG to export and that DICTA would be willing to provide technical assistance to the project. In addition, the PIs met with Eduardo Chirinos (USAID) and Jose Antonio Ortizs (APHIS), who provided information on inspection requirements for exporting beans to the US. In a meeting with Ruben Castellanos, Director of the farmer association ARSAGRO, and several farmer members, the participants expressed possible interest in participating in the project—depending on the price they would received for their beans and the availability of funding to support the initiative.

Explanation for Changes
Angola: UAN emphasized the need to have the MS student begin his studies in Brazil and researchers worked hard to ensure those studies. The transaction costs were high, however, and took time away from the research. The difficulties getting a visa for Angola for Donovan also delayed implementation. The research component of this project has had delays, but at the present time, there is work towards having the needed research output. The challenges of research in Angola relate to the lack of trained staff and the project has contributed to increased training, as seen by the higher numbers trained than anticipated.

Mozambique: Getting the MS student in Pretoria to start her studies needed a strong effort on the part of the researchers and the Pulse CRSP administration. For CESE, that training is high priority and its success well appreciated. The research component of the project has had difficulties, however, and we hope to overcome them with the presence of Donovan in Mozambique as a resident advisor with the MSU project at IIAM. The Value Chain training was expanded to incorporate a basic training on value chain concepts as well as intensive training on implementation of value chain analysis. The USAID-funded MSU project co-funded the two modules at IIAM. There has been a request for additional training as well. Since the SIMA team was already trained in rapid appraisal methods and able to guide new staff,
the training was deemed not critical for IIAM at this time. The focus group training was conducted under the USAID MSU project in late 2008, so it is not needed here.

**Honduras:** During the period April 2008- September 2009, the project has worked with farmer groups from two types of organizations, ARSAGRO and CIALs. The first is a rather large organization of farmers located in the east central region of Honduras, which have been involved in production and commercialization of beans for many years, including some export to other countries o the Central American region and a few times to the US. ARSAGRO have had a lot of support from different projects and have good storage and processing facilities. Unfortunately, the interest of ARSAGRO has been limited to send participants to the training workshop offered by the project. In the other hand, farmers from CIALs are small groups of poor farmers located in less productive hillside regions and with limited resources, and some have to rent land to produce beans and corn season after season because they are landless farmers. The CIALs groups have shown more interest in participating in the project activities; farmer from CIALs have already began to produce and use some organic products on bean production and have been involved in conducting the organic trials distributed by Zamorano. Due to the lack of resources of farmer from CIAL facilities for producing organic fertilizer need to be implemented by the project. Under the situation described before, to this moment it has been not possible to start a formal process for organic production with any of the two groups.

**Networking and Linkages with Stakeholders**

**Angola:** During the first 18 months of the project, MSU and UAN will collaborate with various agencies. It is anticipated that the MSU PI will participate in monitoring and evaluation activities with World Vision on their new Gates Foundation Project on Horticultural Value Chains. This work will enable a strong collaboration between MSU, UAN and World Vision in the implementation of a smallholder baseline survey and the data from that survey may be available for research and analysis focused on beans and cowpeas. Other NGOs in Angola are also involved in activities for agricultural production and marketing, including CLUSA, SNV, and ADRA, and the HC PI will reinforce to linkages with those partners, to share research results on the value chain as well as learn from their experiences. The Ministry of Agriculture in Angola has several units that will be involved for they are currently active in either market information system development (DSA (Food Security Department) and INCER (Cereals Institute)) or in extension activities with smallholders (IDA (Extension Service). The working relationship between IIA (Angolan Research Institute) and UAN is strong and both are based in Huambo, facilitating the linkages. There are two other Pulse CRSP activities in Angola, both based with IIA. Continued discussions with the breeding program with University of Puerto Rico will be particularly important as work on the value chain proceeds.

Private sector agents will be interviewed and later involved in outreach concerning the value chain analysis. These include Nosso Super (supermarket chain), Shoprite (supermarket chain), Jumbo, Angolan Chamber of Commerce, and UNAC (farmers association).

Prior to traveling to Brazil for studies, Chaves conducted interviews with supermarkets and wholesalers in the Huambo area. He and Donovan also conducted a rapid appraisal field trip to local markets in late 2008. The small scale of marketing was considered to be a constraint in local markets as well as the mixing of varieties when selling. It is not uncommon to see women traders sorting through the beans to try to achieve greater uniformity and thus gain a higher prices for the beans. The value chain diagnosis was only preliminary and needs further work before it is ready for publication. A research collaborator is currently collecting price data in the main market of Huambo. IAM staff participated in the Value Chain training, and will be involved.
Mozambique: During the first 18 months of the project, a bean/cowpea taskforce including the principal stakeholders will be created and will have the following functions: 1) review the activities to be undertaken by the project; 2) participate in the evaluation pilot production and market interventions; and 3) promote the uptake of the recommendations arising from the study.

Only then can the outreach occur and the stakeholders group be developed with concrete evidence. The desire is to use the documents as a basis for the meetings indicated under this objective, as previous efforts with task forces for other commodities have identified the need to begin work with an information base in hand. The project is very much behind on this objective and recognizes the need to focus on it in the coming months, prior to the main bean marketing season in April-June period. The rapid appraisal is helpful in highlighting the demand differences among the various markets for beans and the need to specialize on the type of beans given the consumer. For instance, the Malawian consumers demand the darker beans, whereas the Maputo consumers demand white and speckled beans. The European market also has higher demand for the white beans.

Honduras: During the past 12 months, the PIs met with several stakeholders/HC institutions to provide an overview of the research project and solicit their suggestions for implementation, including Eduardo Chirinos (USAID), (APHIS), Michael Hawit and Kira Husbun (Rojitos, a bean processor/exporter), Arturo Galo (Director of SAG/DICTA), Jose Antonio Ortis (APHIS), Eduardo Carrasco (director of a large bean wholesaler/exporter) and Ruben Castellanos (Director of the farmer association, ARSAGRO). The Program for Rural Rehabilitation (PRR), supported by World Accord from Canada, and the Foundation for Farmer Research in Honduras (FIPA)H assisted by the University of Guelph and supported by Unitarian Services Church from Canada, collaborated with the project by facilitating organic bean production activities in Yorito and the Yojoa Lake conducted by the CIAL groups.

Leveraged Funds
Name of PI receiving leveraged funds: Cynthia Donovan
Description of leveraged Project: Angola household dataset completed with World Vision collaboration
Dollar Amount: $0
Funding Source: WV, Gates

Name of PI receiving leveraged funds: Cynthia Donovan
Description of leveraged Project: Mozambique training jointly by USAID/MSU Food Security Project & IIAM
Dollar Amount: $0
Funding Source: FS, IIAM

Name of PI receiving leveraged funds: Juan Carlos Rosas
Description of leveraged Project: Honduras-Organic Farming Workshop (FDN 1000)
Dollar Amount: $1,000

Name of PI receiving leveraged funds: Juan Carlos Rosas
Description of leveraged Project: Honduras-Practical Training (FDN 1000)
Dollar Amount: $1,000

Contribution to Gender Equity Goal
Angola: During the value chain training, there was active participation of 8 women and in data entry 4 women received training. The WV Prorenda Baseline survey and survey report will analyze gender components, and specifically targeted women in the sampling, interviewing 314 women (50% of sample).
Mozambique: The MS trainee is a woman, Ana Lidia Gungulo. During the Value Chain training, 13 women scientists and analysts attended the first Module, and 7 women continued through to the second applied module. As indicated earlier, the rapid appraisal of markets interviewed 63 women traders, to gain their perspective on markets and trading.

Honduras: In the organic farming workshop 2 of the 16 participants were women. In the practical training in organic farming, 2 of the 8 participants were women. In the workshop on organic practices used by farmers, 2 of the 8 participants were women.

Progress Report on Activities Funded Through Supplemental Funds
Not Applicable--no supplemental funds received

Capacity Building Activities: P1-MSU-2
Degree Training:
First and Other Given Names: Ana Lidia
Last Name: Gungulo
Citizenship: Mozambiquan
Gender: Female
Degree: M.S.
Discipline: Agricultural Economics
Host Country Institution to Benefit from Training: IIAM
Training Location: University of Pretoria, South Africa
Supervising CRSP PI: Donovan, Cynthia
Start Date: 2/09
Project Completion Date: 7/11
Training Status: Active
Type of CRSP Support (full, partial or indirect): Full (Category 1)

First and Other Given Names: Esteveo
Last Name: Chaves
Citizenship: Angolan
Gender: Male
Degree: M.S.
Discipline: Agricultural Economics
Host Country Institution to Benefit from Training: UAN
Training Location: University Federal Vicosa, Brazil
Supervising CRSP PI: Donovan, Cynthia
Start Date: 2009
Project Completion Date: 12/11
Training Status: Active
Type of CRSP Support (full, partial or indirect): Full (Category 1)
**Short-term Training:**

**Type of Training:** In-service training

**Description of training activity:** Provision of skills to the trainees on using value chain concepts to evaluate bean and cowpea supply and demand systems nationally and regionally.

**Status of this activity:** Completed as planned

**Reason if training activity not completed as planned:** Due to scheduling conflicts, this activity was postponed until 12/08.

**When did the activity occur?:** 12/08

**Location:** UAM, Huambo

**Who benefited from this activity?:** A total of 40 participants attended the Value Chain training, from both the University (UAN) and from the Agricultural Research Institute (IIMA).

**Number of Beneficiaries:** 40

- Male: 32
- Female: 8
- Total: 40

**Type of Training:** In-service Training

**Description of training activity:** Provision of skills to the trainees on data entry and processing and econometric analysis of bean and cowpea production and marketing data.

**Status of this activity:** Completed as planned

**Reason if training activity not completed as planned:** Training on econometric analysis postponed due to lack of researcher time in Angola, but completed in 3/09.

**When did the activity occur?:** 3/09

**Location:** UAM, Huambo

**Who benefited from this activity?:** Research collaborators.

**Number of Beneficiaries:** 10

- Male: 6
- Female: 4
- Total: 10

**Type of Training:** In-service Training

**Description of training activity:** Provision of skills to the trainees on participatory focus groups discussions to gather insights on beans and cowpeas based farming systems, major constraints and opportunities for bean/cowpea sub-sector development and new strategies for development of bean/cowpea markets towards increased bean and cowpea production and productivity.

**Status of this activity:** Postponed

**Reason if training activity not completed as planned:** Due to scheduling conflicts, this activity has been postponed until 2009.

**When did the activity occur?:**

**Location:** IIAM, Maputo

**Who benefited from this activity?:** Info not provided

**Number of Beneficiaries:** 6

- Male: >
- Female: 
- Total:
Type of Training: In-service Training
Description of training activity: Provision of skills to the trainees on participatory rapid rural appraisals to elicit key informants to provide insights on beans and cowpeas based farming systems, production constrains and potential demand for beans and cowpeas nationally and regionally
Status of this activity: Canceled
Reason if training activity not completed as planned: Training on other topics has been prioritized by IIAM and SIMA staff are already trained.
When did the activity occur?:
Location: Zonal Center of IIAM
Who benefited from this activity?: Info not provided
Number of Beneficiaries: 6
   Male: >
   Female: 
   Total: 

Type of Training: In-service Training
Description of training activity: Provision of skills to the trainees on using value chain concepts to evaluate bean and cowpea supply and demand systems nationally and regionally
Status of this activity: Completed as planned
Reason if training activity not completed as planned: Due to scheduling and time conflicts, the training was postponed, but completed in 3/09.
When did the activity occur?: 3/09
Location: IIAM, Maputo
Who benefited from this activity?: Staff of IIAM.
Number of Beneficiaries: 4
   Male: 35>
   Female: 20
   Total: 55

Type of Training: Practical Training
Description of training activity: Practical training for farmers who will grow organic beans and EAP staff interested in learning about organic bean production methods.
Status of this activity: Completed as planned
Reason if training activity not completed as planned: 
When did the activity occur?: September 2008
Location: Honduras
Who benefited from this activity?: farmer groups participating in organic bean production, and NGO technicians/EAP staff interested in learning how to grow organic beans
Number of Beneficiaries:
   Male: 13>
   Female: 2
   Total: 15
Type of Training: Organic Farming Workshop
Description of training activity: The workshop reviewed principles of organic agriculture, including soil fertility and plant nutrition, and management of pests and diseases.
Status of this activity: Completed as planned
Reason if training activity not completed as planned:
When did the activity occur?: 9/08
Location: Zamorano, Honduras
Who benefited from this activity?: Project collaborators
Number of Beneficiaries: 16
  Male: >
  Female:
  Total:

Type of Training: Practical training in organic farming
Description of training activity: The workshop emphasized practices to prepare and produce organic fertilizer and products to control pests and diseases.
Status of this activity: Completed as planned
Reason if training activity not completed as planned:
When did the activity occur?: 4/08
Location: Zamorano, Honduras
Who benefited from this activity?: Project collaborators.
Number of Beneficiaries: 8
  Male: >
  Female:
  Total:

Type of Training: Workshop on organic practices used by farmers
Description of training activity: The workshop compiled the practices commonly used by farmers to prepare and produce organic fertilizers and products to control diseases and pests.
Status of this activity: Completed as planned
Reason if training activity not completed as planned:
When did the activity occur?: 3/09
Location: Yojoa Lake, Honduras
Who benefited from this activity?: Project collaborators
Number of Beneficiaries: 8
  Male: >
  Female:
  Total:
Dry Grain Pulses CRSP
Report on the Achievement of "Semi-Annual Indicators of Progress"
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This form should be completed by the U.S. Lead PI and submitted to the MO by October 1, 2009

**Project Title: Expanding Pulse Supply and Demand in Africa & Latin America: Identifying Constraints & New Strategies**

<table>
<thead>
<tr>
<th>Abbreviated name of institutions</th>
<th>MSU</th>
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<th>EAP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Target Achieved</td>
<td></td>
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</table>

**Benchmark indicators by Objectives**

<table>
<thead>
<tr>
<th>Target</th>
<th>Achieved</th>
</tr>
</thead>
<tbody>
<tr>
<td>10/1/09</td>
<td>Y N *</td>
</tr>
<tr>
<td>10/1/09</td>
<td>Y N *</td>
</tr>
<tr>
<td>10/1/09</td>
<td>Y N *</td>
</tr>
</tbody>
</table>

**Tick mark the Yes or No column for identified benchmarks by institution**

<table>
<thead>
<tr>
<th>Angola</th>
</tr>
</thead>
<tbody>
<tr>
<td>Objective 1. Collect/analyze secondary information to document trends, information gaps</td>
</tr>
<tr>
<td>Draft literature review on agricultural production and markets in Angola, focused bean and cowpeas</td>
</tr>
</tbody>
</table>

| Objective 2. Interview subsector participants to develop value chain diagnosis, collect info. needed improve performance & identify constraints to subsector growth |
| Diagnostic: Lic. Thesis proposal: Farmer marketing |
| Diagnostic: Lic. Thesis proposal: Public markets: Sources and sales |
| Diagnostic: proposal: Formal Private sector sources and destination |
| Diagnostic: Lic. Thesis: Farmer marketing |
| Diagnostic: Lic. Thesis: Public markets: Sources and sales |
| Diagnostic: Formal Private sector sources and destination |
| Draft Value chain diagnostic | 1 X 1 X |
| MS Thesis proposal | 1 X 1 X |

| Objective 3. Identify, constraints, opportunities, and potential pilot interventions to improve competitiveness |
| Participative survey with NGO in Planalto region |
| Draft article on smallholder marketing |
| Outreach with NGO on smallholder marketing | 1 X 1 X |
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<tr>
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<td>10/1/09</td>
<td>Y</td>
<td>N</td>
<td>10/1/09</td>
</tr>
<tr>
<td><strong>Mozambique</strong></td>
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</tr>
<tr>
<td><strong>Objective 1.</strong> Analyze spatial &amp; temporal patterns of dry bean production &amp; marketing, using national survey data (TIA), disaggregated by gender</td>
<td></td>
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<tr>
<td>Tabular results of spatial analysis from TIA</td>
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<tr>
<td>Summary report on price analysis (SIMA data)</td>
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<tr>
<td>Synthesis Paper on spatial and temporal analysis</td>
<td>1</td>
<td>X</td>
<td>1</td>
<td>X</td>
</tr>
<tr>
<td>Policy brief on production</td>
<td>1</td>
<td>X</td>
<td>1</td>
<td>X</td>
</tr>
<tr>
<td><strong>Objective 2.</strong> Map marketsheds for dry bean production areas, document market preferences &amp; work with breeders to test varieties with desirable market characteristics to improve competitiveness</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Maps on production and marketing (TIA results)</td>
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<tr>
<td>Draft rapid appraisal (Windshield Survey) bean/cowpea section for instrument</td>
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<tr>
<td>Conduct focus group discussions on preferences</td>
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<tr>
<td>Conduct rapid appraisal with SIMA participation</td>
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<tr>
<td>Report on focus group discussions</td>
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<td></td>
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<tr>
<td>Report on rapid appraisal (Windshield Survey)</td>
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<tr>
<td>Establishment of bean/cowpea task force</td>
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<tr>
<td>Presentation of diagnostic results to stakeholders</td>
<td>1</td>
<td>X</td>
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<td>X</td>
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<tr>
<td>Joint meeting with IIAM breeders on market results and consumer preferences to identify potential interventions with production</td>
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<tr>
<td>Working paper (for obj 1 &amp; 2)</td>
<td>1</td>
<td>X</td>
<td>1</td>
<td>X</td>
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<tr>
<td>Policy brief (for obj 2)</td>
<td>1</td>
<td>X</td>
<td>1</td>
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<tr>
<td><strong>Objective 3.</strong> Undertake econometric analysis of the determinants of market participation by producing HHs, including HH head/gender as an explanatory variable</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Organize unified TIA dataset</td>
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</tr>
<tr>
<td>Draft M.Sc. thesis proposal</td>
<td>1</td>
<td>X</td>
<td>1</td>
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</tr>
</tbody>
</table>
**Dry Grain Pulses CRSP**  
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<td>Target</td>
<td>Achieved</td>
<td>Target</td>
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<td>Benchmark Indicators by Objectives</td>
<td>10/1/09</td>
<td>Y</td>
<td>N *</td>
<td>10/1/09</td>
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</table>

**Tick mark the Yes or No column for identified benchmarks by institution**

**Honduras**

**Objective 1. Contact US retailers to identify markets for organic fair trade beans**
- List of US retailers with potential for organic fair trade beans

**Identification of potential certification agency and the standards that are to be met for fair trade organic certification (preliminary assessment, confirmation assessment assessment)**
- 1
- X

**Objective 2. Validate via field trials agronomic recommendations for growing organic beans**
- Identify production technologies for field trials
- Establish initial field trials
- Report on initial trial results
- Establish second set of field trials
- Report on second set of field trials
- List of best practices for growing organic beans
- 1
- X

**Objective 3. Train farmers to grow organic beans**
- Identify farmer groups/NGOs interested in producing organic beans
- 1
- X
- Train farmers on organic bean production methods
- 1
- X
- Initiate production of organic beans for the US market
- 1
- X

**Objective 4. Establish market linkages with private market participants**
- Establish list of firms available to transport, clean, and export organic beans; cost of these services (initial assessment, confirmation assessment)
- 1
- X
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<td>N *</td>
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<td>10/1/09</td>
<td>10/1/09</td>
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</table>

Tick mark the Yes or No column for identified benchmarks by institution

Objective 4: Institution Building

- Angola: Identify trainee for MS training at U. Pretoria
- In-service training STATA
- In-service training on value chain analysis
- Begin/continue MS degree training in SA
- Begin thesis fieldwork in Angola
  - 1 X
- Mozambique: Identify trainee for MS training at MSU
- Begin MS degree training at MSU
- Conducts thesis fieldwork in Mozambique
  - 1 X
- In-service training STATA
- In-service training GIS
- In-service training on value chain analysis
- Draft Focus group guide
- In-service training focus group discussion methods
- In-service training on Rapid Rural Appraisal
- Honduras: Conduct first practical training for organic bean farmers
- Conduct second practical training for organic bean farmers
  - 1 X

Name of the U.S. Lead PI submitting this Report to the MO: Richard H. Bernsten

Richard H. Bernsten 10/1/2009

Signature Date

* Please provide an explanation for not achieving the benchmark indicators on a separate sheet.
Dry Grain Pulses CRSP  
Research, Training and Outreach Workplans  
(April 1, 2008 -- September 30, 2009)  

PERFORMANCE INDICATORS/TARGETS  
for Foreign Assistance Framework and the Initiative to End Hunger in Africa (IEHA)  

Project Title: Expanding Pulse Supply & Demand in Africa and Latin America: Identifying Constraints & New Strategies  
Lead U.S. PI and University: Bernsten, Boghton, and Donovan, Michigan State University  
Host Country(s): Angola, Mozambique, and Honduras

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<th>2008 Actual</th>
<th>2009 Target</th>
<th>2009 Actual</th>
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<tr>
<td><strong>Degree Training: Number of individuals who have received degree training</strong></td>
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<tr>
<td>Number of women</td>
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<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Number of men</td>
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<td>2</td>
<td>1</td>
</tr>
<tr>
<td><strong>Short-term Training: Number of individuals who have received short-term training</strong></td>
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<tr>
<td>Number of women</td>
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<td>2</td>
<td>18</td>
<td>30</td>
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<tr>
<td>Number of men</td>
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<td>13</td>
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<tr>
<td><strong>Technologies and Policies</strong></td>
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<tr>
<td>Number of technologies and management practices under research</td>
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<tr>
<td>Number of technologies and management practices under field testing</td>
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<td>3</td>
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<tr>
<td>Number of technologies and management practices made available for transfer</td>
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<td>9</td>
<td>2</td>
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<tr>
<td>Number of policy studies undertaken</td>
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<tr>
<td><strong>Beneficiaries</strong></td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>Number of rural households benefiting directly</td>
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</tr>
<tr>
<td>Number of agricultural firms/enterprises benefiting</td>
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<tr>
<td>Number of producer and/or community-based organizations receiving technical assistance</td>
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<td>13</td>
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<tr>
<td>Number of women organizations receiving technical assistance</td>
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<td>1</td>
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<td>Number of HC partner organizations/institutions benefiting</td>
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<td><strong>Developmental outcomes</strong></td>
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<tr>
<td>Number of additional hectares under improved technologies or management practices</td>
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