

# AGLC YEAR 1 WORK PLAN

**PERIOD: OCTOBER 1, 2015 TO SEPTEMBER 30, 2016**

**FEED THE FUTURE AFRICA GREAT LAKES REGION COFFEE SUPPORT PROGRAM  
AWARD NUMBER: AID-OAA-LA-15-00006**

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## 1. Introduction: AGLC Program Goals, Objectives and Context

The Feed the Future Africa Great Lakes Region Coffee Support Program (AGLC) is a USAID-funded applied research, producer capacity-building, and policy engagement initiative in the Great Lakes Region of Africa that will control potato taste defect (PTD) and improve coffee productivity—two of the major challenges underscored in the 2014 Coffee Research Symposium and ongoing policy dialogue with coffee value chain leaders in the region.

AGLC meets these challenges through three main program components, identified as the following:

- *Applied policy, household, and agronomic (field-level) research* to serve as the basis for smallholder capacity building and policy engagement aimed at reducing potato taste defect and low coffee productivity and profitability in the Africa Great Lakes Region.
- *Capacity building/farmer training & outreach* with project partners in the Africa Great Lakes Region to train coffee producers and processors on potato taste/antestia control and other practices that will increase productivity and farmer incomes.
- *Policy engagement* to help create an enabling institutional environment to debate, formulate and adopt policies that will motivate producers and other actors in the coffee value chain to invest their labor, land and capital in ways that will increase smallholder farmer incomes.

The AGLC initiative will fill important gaps in our knowledge base on controlling PTD, improving coffee farm management practices and creating a policy environment that is fully supportive of farmer and other stakeholder investment in the sector (see Annex Figure 1).

## **2. AGLC Year 1 Activities, Outputs, Partner Responsibilities and Timelines**

Beginning with the Year 1 activities in this work plan the alliance will forge enduring ties between the public, private, and university sectors, all of which are necessary for building sustainable regional capacity in applied research, extension/outreach, and policy analysis and formulation. Michigan State University will provide overall administrative and technical leadership and will take a team approach to realizing the program's vision through its primary implementing partners, the University of Rwanda (UR), the Institute of Policy Analysis and Research (IPAR), the Polytechnic University of Gitega (PUG) and the University of Ngozi (UNg), together with the technical support of the Global Knowledge Initiative (GKI) focusing on media outreach, network management, and advancing the policy dialogue in support of improved coffee productivity and improved antestia/PTD management.

A crucial aspect of this research and policy-based initiative is the need to engage with public and private sector stakeholders such as CEPAR, NAEB, Starbucks and Agropharm in Rwanda.<sup>1</sup> Through the involvement of these partners, particularly in farmer and washing station capacity building, the proposed program will broadly strengthen their abilities to reach smallholder farmers with the agricultural inputs and practices necessary to improve coffee productivity and combat the devastating effects of PTD.

Described in this section are the main activities that the AGLC alliance partners will undertake in Year 1 of the program, along with their expected outcomes and timelines. The section begins with program kick-off, a one-time series of activities designed to bring stakeholders together behind the project and ensure a successful launch. Subsequent sections describe the detailed plan of work in each of the three program areas (research, capacity building and policy engagement), and finishes with steps that will be taken in Year 1 to put in place and begin implementation of a robust plan for program monitoring and evaluation (including FTF and FSP-IR indicators).

Michigan State University and its partners acknowledge the challenges related to the current political environment in Burundi and will work closely with USAID to ascertain the appropriate level of involvement in project activities by public Burundian institutions.

### **2.1. AGLC Program Kick-off Activities and Outcomes**

Seeking an auspicious start to the program AGLC kick-off activities will include: 1) the preparation of the present Year 1 Work Plan that will serve as the team's collective agreement on how, when and where

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<sup>1</sup> NAEB is the National Agricultural Export Development Board in Rwanda. CEPAR is the Coffee Exporters & Processors Association of Rwanda.

the program will be implemented in its first year, and 2) a Kick-off Conference designed to align all major stakeholders behind the approach and plan of activities.

To the extent that kick-off activities in Rwanda and Burundi can be conducted jointly, this will help to ensure needed coordination between activities and approaches adopted by the two countries whose coffee sectors share many of the same inherent challenges and opportunities. The two country teams are fully committed to achieving open, transparent working relationships and to cross-fertilizing one another's work, results and successes.

### **2.1.1. Work Plan**

Framing out the Year 1 Work Plan (the present document) was one of the primary goals of Dan Clay's August 2015 trip to Rwanda. During that trip he worked with the Rwanda and Burundi teams on both the overall programmatic approach and on the individual roles that each partner will play. Scopes of work (SOWs) for UR, IPAR (Rwanda) and PUG and UNG (Burundi) were mapped out for purposes of the work plan as well as for their individual sub-recipient contractual agreements which MSU has subsequently established.

Several Rwanda-based public and private partners to AGLC were also engaged in the development of the draft Year 1 Work Plan concerning their priority needs as well as their agreed-upon responsibilities in the research, capacity building and policy engagement domains of the project. Included in these consultations were the Ministry of Agriculture and Animal Resources (MINAGRI), the National Agriculture Export Development Board (NAEB), the Coffee Exporters & Processors Association of Rwanda (CEPAR), and AgroPy (formerly Agropharm). Clay was unable to travel to Burundi due to continuing instability there, however team members from the Universities of Gitega and Ngozi were able to travel to Kigali (with USAID clearance) for meetings with Clay and the larger project team during the second week of August.

### **2.1.2. Kick-off Conference with stakeholders**

A successful start to the AGLC program is conditional upon the teams' abilities to engage the primary coffee sector stakeholders at all levels of the value chain, with particular attention to securing buy-in and ownership of the process by key sector decision makers. An important step in this engagement will be the project "Kick-off Conference" scheduled for October 13, 2015, in Kigali, Rwanda. The goal of the conference will be to provide an early opportunity for stakeholders to learn about the project and to have a voice in its direction and expected outcomes over the subsequent three years.

The conference will be officiated by the Ministry of Agriculture and Animal Resources in Rwanda or her designee. It will be held at the Lemigo Hotel in Kigali and will be hosted by the Institute of Policy Analysis and Research (IPAR) and facilitated by the Global Knowledge Initiative (GKI). The remaining four implementing partners (MSU, UR, PUG and UNG) will also have contributing roles to play in the program. Rwanda government partners involved will include the ministries in charge of agriculture and their agencies such as NAEB and RAB. Private sector and NGO representation at the conference will include CEPAR, Starbucks, AgroPy and others from Rwanda.

IPAR will be the lead organizer/coordinator of the conference and as such will handle program development (with GKI input), invitations, media arrangements, and all logistics and conference direct costs, notably meeting space and food & beverage service. GKI will facilitate the conference meetings and will take the lead in developing program materials (hand-outs) and the final program report and press release.

The program will include presentations on the major project components, namely research/evidence generation, farmer and CWS capacity building, and policy engagement. Aspects of project coordination and management will also be presented as well as the three-year implementation timeline. A plenary session on the project rationale and objectives is also planned in which all participants will be invited to comment on the merits of the project and discuss the priority areas for consideration in its implementation. Ministerial and US Embassy delegations will have an opportunity for exchange with front-line coffee value chain participants in Rwanda.

### 2.1.3. AGLC program kick-off activities/outcomes

Activity/Outcome	Quarter Due			
	1	2	3	4
<b>Project Start-up Activities/Outcomes</b>				
Establish partner SOWs	■			
Establish subcontracts with partners	■			
Prepare initial reports/PPTs for Kick-off Conference	■			
Kick-off Conference (Kigali, IPAR/GKI convene)	■			
Work plan development and submission	■			
M&E development and submission	■			
Procure tablets for data collection	■			

## 2.2. Component 1: Applied Research on PTD/Antestia, Productivity and Incentives

The primary objective of AGLC’s applied research component is to objectively and empirically inform coffee sector stakeholders in Rwanda, Burundi and elsewhere in the region concerning the most effective practices for controlling antestia/PTD and for establishing a policy environment that will provide the necessary incentives for coffee producers to invest their labor, land and cash resources in these practices.

As detailed in the subsections below, the implementing partners will develop both demonstration and control plots and identify the efficacy of chemical and organic (pyrethrum-based) pesticides and integrated pest management (IPM) in controlling antestia/PTD. Similarly, fertilizer and manure/compost treatments will be tested for impact on yields, cyclicity of production, and interactions with antestia control regimes. The results will be developed into best-practices training materials and gender-sensitive media messages (radio/SMS). Additional outputs include the implementation of focus group discussions with the full spectrum of coffee value chain stakeholders, a producer survey on PTD/antestia knowledge-attitudes-practices (KAP) and incentives to invest in prevention/control and higher coffee

yields, and a targeted data collection effort with the sampled coffee washing stations on what they are doing to address antestia/PTD and low productivity and on potential steps to implement a multi-tiered pricing system that pays producers higher prices for higher quality cherry.

These Year 1 applied research efforts will provide the information needed to: 1) create a policy framework for incentives that will motivate farmers and washing stations to make the necessary investments in antestia control and higher productivity; 2) target capacity building in best practices for antestia/PTD control and improved productivity; and 3) take appropriate steps in raising awareness through extension/ dissemination in collaboration with private sector partners such as Starbucks in Rwanda and Webcor in Burundi.

### **2.2.1. Household baseline survey**

Baseline household surveys will be conducted in both Rwanda and Burundi during the first quarter of Year 1. The surveys will have multiple objectives, the first being to identify and document the level of awareness of antestia/PTD among coffee-growers, their levels of knowledge about how to address the problem as well as the specific practices they have adopted to combat it. Farmer awareness, knowledge and practices constitute a focal point for AGLC and the success of the program will hinge on improving farmer behavior against these indicators. The baseline surveys will establish the point against which future progress will be measured.

A second objective of the baseline surveys is to identify the barriers to farmer investment in coffee production and how incentives are tied to coffee sector policies related to cherry prices, pre-financing, cost of production, gender roles and other aspects of the coffee value chain. Understanding farmer behavior, as it relates to incentive mechanisms and socio-economic elements of on-farm decision-making, including the role of time and risk preferences, is of paramount importance to formulating effective coffee sector policies.

Producer cost of production will be one of the essential pieces to the household survey. Without a regular determination of the real cost of production to the farmer and adjusting for changes in both exchange rates and the NYBOT “C” price, the negotiated floor price for cherry in Rwanda and Burundi will not reflect the actual cost or potential profitability of coffee for the producer, a significant disadvantage coffee growers relative to others in the value chain. Recent research has begun to reveal that the fixed costs of the rural traders, washing stations and dry mills may be given priority in the process over the costs of the coffee producers, particularly considering the substantially greater risk absorbed by the producers (e.g., drought, insect damage, NYBOT price decline, etc.). While these concerns are debatable at some level, there is certainty in the need for empirical assessment and open conversation at the national level. The Year 1 baseline survey will take an important step toward providing a scientific basis to the policy dialogue on how to motivate farmers to invest in their coffee. Gender differences in incentive structures will be a particular point of focus in the baseline and will be captured through the implementation of a female-specific module in the household survey.

**Choice modeling.** Another essential piece of the baseline survey will be the generation of data on coffee farmer decision-making. Farmers face a choice of whether to sell their cherry through the fully-washed (FW) channel (going to specialty markets) or to process cherry on their farms and sell the parchment in

ordinary semi-washed markets. The decision to supply to latter channel is often based on liquidity constraints and is conditioned by farmers' (in)ability to invest in their coffee plantations sufficiently to meet the needs of the fully washed channel (including the control of antestia/PTD). With this in mind, a component of the Year 1 baseline is to separately examine male and female farmers' preferences for selling their coffee in the two market channels as well as to assess their willingness to invest labor, capital, land and other factors in coffee versus other potential crops such as banana, bean, maize or sweet potato. An experimental choice modeling approach will be used to measure and analyze farmers' preferences for market channel as well as their willingness to accept (compensation) to invest in factors of production. By "compensation" we mean the minimum cherry price that farmers would be willing to accept to supply a given market channel. This will allow us to trace out a supply curve for each channel and let us conduct simulations exercises—how much coffee/how many farmers would enter the market at any given price. In this context, the choice experiments will also allow us to calculate supply elasticities and will help us to understand how farmers would behave under different pricing conditions.

Choice modeling has become an increasingly important method for assessing economic behavior and decision-making as the method enables the estimation of marginal values for various characteristics embodied in different goods or services, including non-market goods and services for which such marginal valuations are difficult or impossible to measure by examining revealed preferences.

***Review of previous research.*** In October-November, GKI, UR and IPAR will take the lead in developing a literature review of previous work in coffee productivity and PDT/antestia control in Rwanda and elsewhere in the region. This will cover activities that have taken place to boost coffee productivity and control antestia/PTD in the past, and challenges and successes with specialty coffee in the Africa Great Lakes region. The team will also look at other countries/contexts grappling with policy change that impacts coffee and/or other cash crops. This comparative literature review will furnish insights into critical ingredients, sequences, patterns, and enablers to policy change that will help the team succeed in this initiative.

### **Baseline survey methodology and implementation**

In Rwanda, the IPAR team will lead the development and implementation of the coffee producer baseline survey. It will be fielded in four selected Districts of Rwanda, namely Rusizi (Western Province), Huye (Southern Province), Ngoma (Eastern Province), and Gakanke (Northern Province). From each District, the team will select four high volume coffee-producing Sectors, based on the NAEB 2015 database, and the presence of at least one operating washing station. Thus in each District there will be four CWSs/Sectors selected for study. Ideally, among the four CWSs there will be two cooperatively run CWSs and two privately operated CWSs. From CWS farmer listings 64 farmers will be randomly selected for study, totaling 1,024 (16 CWS x 64 HH) coffee producing households in all.

In Burundi the design will mirror the approach in Rwanda, with four communes being selected, two in the northern coffee-growing region and two in the central region with a total of 1,024 producer households randomly selected from 16 CWS listings in those communes. The University of Gitega will lead the development of the baseline instrument in Burundi and will implement the survey in the two central region communes, while the University of Ngozi will implement the baseline in the two northern communes.

The survey instruments will be developed in September/October 2015 and will be ready for testing and full data collection in October/November. Both teams will use hand-held devices (Samsung 7" tablets) for data collection. During the first two weeks of October, MSU will provide training and technical support to partners in both countries in developing the baseline survey instruments and in programming the tablets for data collection. Tablet-based data collection has many advantages, including the reduction of error rates, elimination of a separate data entry process, and immediate access and review of data by the supervisory staff.

The household-level instrument will collect detailed information related to costs of coffee production and incentives for farmers to invest in coffee. Costs will include, for example, those related to investment in soils and water conservation measures, access to land, access to inputs (such as inorganic fertilizers and pesticides), mulching costs, labor for cultivation and harvesting (and others steps before the harvest), storage and post-harvest handling costs, and marketing costs (such as transport costs from the farm to coffee washing station or other intermediary markets).

Data will also be collected at the washing station level for the 16 CWSs in each country. This component will be used to assess the importance of CWS-level variables in determining farmer incentives and capacity to invest in their plantations. The CWS data will include cooperative versus private ownership, coffee volumes, three-year historical volume, sales and price data, premium payments, direct contract data, pre-financing and support from local banks, cooperative size and strength, size of "catchment area" (geographic coverage), etc. The CWS instrument will be fielded in January-February 2016, once the baseline survey has been completed and the field-level data collection has begun, but before the harvest season begins (and the availability of CWS manager becomes more limited).

A field staff of eight interviewers and two supervisors will be engaged in each country to complete the baseline data collection. They will first be introduced to the research objectives and the overall project goals to enable them contextualize the data collection process, and then will be trained on all sections of the survey instruments, the use of tablets for data collection and on ethical concerns in conducting household interviews.

For the farmer choice modeling, producers will be asked to choose among a series of alternatives, often repeatedly. The alternatives that the individuals are presented with are comprised of varying levels of key attributes that are thought to be the most important attributes that condition (production) decisions. In the Rwanda/Burundi context, since we are concerned with farmers' decisions regarding investment of their labor and cash in coffee versus other crops as well as whether to market their coffee through the fully-washed versus semi-wash channels, the teams will incorporate relevant attributes known to affect coffee investments and marketing decisions. Focus group discussions with coffee producers and previous research results will be used to establish the choice experiment parameters and alternatives. The instruments will also be designed to collect data on farmers' risk, ambiguity and time preferences for subsequent analysis to determine whether these behavioral parameters condition farmers' willingness to choose coffee over other crops or to supply a particular coffee market (fully-washed versus semi-washed).

The recruitment of enumerators will take into account their experience in data collection especially in agriculture and socio-economic subject matter. Where possible, in both Rwanda and Burundi, senior-

level university students working on coffee sector issues for their thesis research will be engaged as field enumerators. The enumerator training for the baseline survey will be led by IPAR (in Rwanda) and by PUG (in Burundi) and is scheduled for a one-week period in late October. Two days will be designated for classroom based instruction, followed by two days of pretesting and field training. Following the pretest, the teams will regroup to review the results and to make final changes to the survey instruments. A report on the training of enumerators and supervisors will be drafted and shared with project partners in each country.

### **2.2.2. Applied field and CWS-based research**

The primary objectives of the applied field and CWS-based research is to objectively and empirically inform coffee sector stakeholders in Rwanda, Burundi and the DRC concerning the most effective practices for controlling antestia/PTD and for reducing low and cyclical production (alternating high and low coffee cherry yields). The Approach is one that will isolate the principal causes of the combined problems of antestia/PTD and low coffee productivity/cyclicity and identify the most effective measures for reversing their devastating effects.

Best practices recommendations will be drawn from the results of these applied field trials in Year 1. The goal is to identify the optimal yield-enhancing and cyclicity/PTD-reducing regimes (in terms of practices and costs) for dissemination and capacity building to be implemented with/through our private sector partners as described in Section 2.3 below. The AGLC team will have initial test results and best practices identified and disseminated after the project's first harvest season (June, 2016) in time for adoption before the start of the second season.

***Farm and coffee plot selection.*** In Rwanda, UR will lead and coordinate the field-level data collection effort while in Burundi it will be evenly split between the University of Ngozi and the Polytechnic University of Gitega. These two research teams will coordinate closely in the development of the survey/research instruments and the implementation of the fieldwork. For logistical purposes, UNG will manage the fieldwork in the two selected communes in the northern coffee-growing provinces of Burundi, while PUG will manage the fieldwork in the two selected communes in the central coffee-growing provinces. The northern and central provinces are where nearly all of Burundi's coffee is produced.

In both Rwanda and Burundi the field trials will be conducted on a subsample of the baseline farm households. From the 64 baseline farms in each of the 16 washing stations in Rwanda (and 16 washing stations in Burundi) 4 farms will be sampled for field level trials, resulting in a total of 64 coffee farms/plots in each country. The four farms/plots will be selected one from each farm management category (good, medium and poor) plus one control. Taking into consideration gender, at least one of the four farms/plots will be from a female-headed household. These farms will be used for both data collection and demonstration purposes as described below in the capacity building component of the project. Partner AgroPy has agreed to provide organic, pyrethrum-based pesticides to be used in the experimental plot treatments. CEPAR and InterCafé will furnish Confidor and other synthetic pesticides for comparative testing.

**Plot-level data collection.** Using an experimental design to test good agricultural practices (GAPs) and pesticide packages on the 64 plots, the enumerator team (the same as employed for the baseline data collection) will collect data on soil and plant nutrients, plant growth, yield, antestia population, and natural controls in the field. Data will also be collected on key environmental and climate change factors such as elevation, rainfall, temperature and slope. After harvesting, the team will collect data on coffee processing parameters and the incidence of potato taste defect (PTD). Plot level data will be collected on the Samsung tablets on a monthly basis through the course of the coffee-growing season to track the results of the experimental treatments and how they are conditioned by their agro-ecologies.

Public and private partners will provide professional cupping services to measure PTD incidence. These services have been committed by NAEB and Starbucks in Rwanda.

### **2.2.3. Data processing and analysis**

Data processing and analysis during Year 1 will be a team effort, with each institution taking responsibility for its designated domains of the applied research program. IPAR will take the lead on the Rwanda baseline survey analysis and report writing, while UR will take charge of the agronomic analysis (from the 64 test fields). In Burundi the baseline analysis will be led by the University of Gitega and the University of Ngozi will lead the analysis and reporting from the agronomic component of the research program. MSU will play an active, mentoring/capacity building role during this phase of the program, providing training in data management & transformation as well as in particular analytical techniques such as choice modelling. GKI will support the data analysis phase through the development of policy briefs and public communications based on the research results.

The use of tablets for data collection during both phases will eliminate the need for a separate data entry operation. CSPro software will be used for the data collection and data will be uploaded each day from the tablets to the cloud server and then downloaded by the research teams at their respective institutions. Supervisory staff will monitor the results as they are submitted (uploaded/downloaded) from the field and will make corrections as necessary.

Once the baseline data collection phase is complete the data will be exported from CSPro to SPSS/Stata for further cleaning and transformation. While CSPro range and consistency checks will provide a first-stage cleaning of data in the field (at entry), a second stage set of cleaning edits will be implemented in the third week of November by IPAR in Rwanda and PUG in Burundi. Open-ended responses will also be coded through a content analysis during that period and variables will be transformed through aggregation and other computation to facilitate analysis. A similar process of cleaning and transformation will be applied to the plot level data as they are collected and transmitted through the course of the Year 1 coffee growing season. MSU will play a close mentoring and capacity building role with all implementing partners to ensure high quality data and comparability of data across the two countries.

Analysis of the producer baseline data is expected to begin early in February once the data cleaning and transformation steps are complete. Analyses will focus on farmer investments in coffee and assessing the independent effects of the main factors, notably the cost of production, effects of cherry prices, and the timing of payments (pre-financing), that account for variation in farmer investments and the

channels (fully-washed versus semi-washed) that farmers opt for in marketing their coffee. Cost benefit analysis and choice modeling will be combined with conventional tabulation, analysis of variance and econometrics in the baseline analysis phase.

Analysis of data from the experimental coffee plots will be carried out at the completion of the growing season in June, 2016. The data will be analyzed to isolate the principal causes of low coffee productivity/cyclicality and combined problems of antestia and PTD, and to identify the most effective measures for addressing their effects. The expected outcomes from these steps include successful identification of the major proximate causes of low yields and PTD/antestia resulting from the applied research.

The Year 1 results from the baseline and experimental plots will be reported in a series of special reports, policy briefs and training materials. This will allow for effective capacity building (see Section 2.3) through raised awareness among coffee producers, cooperatives, and washing stations of the impact of antestia/PTD and low yields as well as training for coffee producers, cooperatives, and washing stations in best practices for higher coffee productivity and control of antestia/PTD, both in the field and at the washing station. With these evidence-based outputs in hand the AGLC teams will be in a position to advocate among policy makers and other stakeholders for policy initiatives in support of farmer incentives to invest in best practices and to increase sales through the fully-washed coffee market channels.

#### 2.2.4. Year 1 applied research activities/outcomes

Activity/Outcome	Quarter Due			
	1	2	3	4
<b>Project Start-up Activities/Outcomes</b>				
Establish partner SOWs	■			
Establish subcontracts with partners	■			
Prepare initial reports/PPTs for Kick-off Conference	■			
Kick-off Conference (Kigali, IPAR/GKI convene)	■			
Work plan development and submission	■			
M&E development and submission	■			
Procure tablets for data collection	■			
<b>Applied Research Component Activities/Outcomes</b>				
Research design	■			
Sample frame development	■			
Field sample frame development (incl CWS)	■			
Define technology packages for field implementation	■			
Training and setup of CSPro Mobile	■			
Recruit enumerators	■			
Letter from IPAR/NAEB and into in Districts	■			
Develop Baseline Survey Instrument	■			

Develop Field-based Instrument	■			
Develop CWS and owner Instrument	■			
Listing of producer HHs in 16 CWSs	■			
Sample selection of 4 x 16 farms for Agronomic data	■			
Convert instruments to CSPro	■			
Pretest and revision of instruments	■			
Enumerator field training	■			
Experimental/demo field selection process	■			
Train experimental farmer (N=64)	■			
Field-based Survey data collection (N=64)	■	■	■	
Soil sample analysis on sampled fields		■		
Compile climate data (rainfall, temperature, elevation, moisture, etc.)		■		
Baseline Survey Implementation				
Baseline Survey data collection (N=1024 in each country)	■			
Baseline CWS data collection (N=16 in each country)	■	■		
Compile baseline survey data in CSPro	■	■		
Convert baseline data to SPSS/Stata	■	■		
Clean baseline data (range and consistency)		■		
Data coding (open-ended Qs to numeric data)		■		
Data transformation		■		
Data analysis	■	■	■	■
Draft baseline HH report		■		■
Field-based Experimental Research Implementation				
Field-based data collection (N=64)	■	■	■	
Compile field-based survey data in CSPro		■		
Convert field-based data to SPSS		■		
Clean field-based data (range and consistency)		■		
Data coding (open-ended Qs to numeric data)			■	
Data transformation			■	
Analysis of field-based data	■	■	■	■
Draft field-based research report	■	■	■	■

### 2.3. Component 2: Farmer Capacity Building

Rwanda’s Economic Development and Poverty Reduction Strategy II (2013-2018) identifies development of the coffee sector as one of the country’s priority strategies for accelerated growth, but also underscores low coffee productivity as the sector’s foremost constraint to growth, largely caused by sub-optimal agronomic practices and diseases/pests including antestia. The strategy statement calls for a systematic expansion of services in support of farmer capacity building.

The AGLC capacity building component takes direct aim at this need through a multi-pronged approach with direct actions to increase stakeholder awareness of antestia/PTD and the effects of low

productivity at the farm level. Demonstration plots, farmer training and media messages will provide farmers and CWS managers with the skills to address this suite of interrelated challenges. The teams also expect that the capacity building activities will start with the preparation of clear, user friendly training materials, broadcasts and messages that will be widely distributed and used.

Primary capacity building and policy development partners will draw heavily on private sector partners, CEPAR, Starbucks and NAEB in Rwanda, and Webcor in Burundi. Cupping services for evaluation of PTD incidence in coffee samples will be provided by Starbucks and NAEB in Rwanda. Provision of insecticides (synthetic and organic) to the coffee producers will be CEPAR in Rwanda. Farmer training will occur in tandem with the distribution of inputs to help ensure that these products will be properly/safely applied and managed and to minimize the diversion of inputs to other crops (and resale to traders).

### **2.3.1. CWS-based farmer training in PTD/antestia control and productivity enhancement**

Capacity building will be implemented by AGLC in three stages: 1) farmer training using the 64 study plots selected for long-term field data collection, 2) training of enumerators/students in data collection and farmer training roles, and 3) scaling up training messages/bulletins through public and private sector partners (PPP).

**Farmer training.** The training of coffee farmers in antestia control and best practices for improved productivity (and reduced cyclicity) will be a season-long program using on-farm research plots. The 64 farmers across the 16 CWS/Sectors selected for data collection in each country will be divided into groups. Each group will be trained on one of the experimental farms with different treatments. Enumerators will organize farmers to meet and study crop development and the differences among the various treatments in the experimental plots. Using a simplified data form they will collect data on each treatment at the same time as the project enumerators collect monthly data on coffee growth parameters, antestia populations and natural enemies. The 1,024 farmers in each country will learn through discovery and experimental design, using a modified farmer field school (FFS) approach.

**Enumerator/Student training.** The Rwanda and Burundi implementing partners will build local capacity by training 16 enumerators and (where possible) undergraduate students to collect data on the selected study plots in a total of 32 CWS/Sectors. They will be trained use hand-held devices (7" tablets) for data collection. Each enumerator/student will collect data on eight farms in each Sector and in the case of the students will use the data as the basis for their final year thesis research project. For the baseline study on cost of production and farmer incentives, each student enumerator will also collect data on the full 64 farms in each of the two designated CWS/Sectors for a total of 128 farm households. Each year, there will a new cohort of students/enumerators trained on coffee production practices, inputs use, antestia control as well as in coffee processing and cupping (quality evaluation) practices. It is anticipated that at the conclusion of their field experience the professional skills and knowledge these enumerators/students will have acquired will be highly marketable and attractive to coffee washing stations and other potential employers in the coffee sector.

**Scaling up capacity building through PPP.** As early as May, 2016 training materials and key messages for controlling antestia and improving coffee productivity will be scaled up to a larger producer audience through the AGLC project's public and private sector partners (PPP) including CEPAR, NAEB, Starbucks,

Webcor, CCC and others. The teams will experiment with the use of SMS to build farmer capacity through the dissemination of messages aimed at reducing antestia/PTD rates and improving coffee productivity.

### **2.3.2. Outreach through SMS and Radio**

As part of our capacity building and research outreach for this project, AGLC will develop targeted messages to deliver to farmers via SMS and radio broadcasts. UR and PUG will take the lead in reaching 1,024 coffee farmers in both Rwanda and Burundi (total approximately 2,048) with support from GKI. Nearly all farmers in both countries have mobile phones, and the team will have contact information for each of them from the baseline survey. AGLC will contact these farmers with instructions and information on how to control antestia, mitigate potato taste defect, and boost coffee productivity (information such as when to spray insecticide, and how much, as well as other time-sensitive information). Instructions will initially focus on promoting the adoption of available technologies and techniques for antestia control and productivity improvements. As the project develops, research teams will monitor results and condense lessons into instructional SMS messages. The effectiveness of these messages will be monitored through analysis of productivity, antestia populations, and potato taste defect incidence.

AGLC will also experiment with the use of SMS for tracking certain M&E indicators such as whether pesticides have been received/applied and cherry prices received at most recent sale. It is not known whether farmers will have this capability but the AGLC team will explore use of such a system in Year 1 and if successful will apply it more broadly in subsequent years.

Multiple outreach tools will be used to reach producers and other coffee sector actors. Radio broadcasts will reach a much broader audience with similar messages on increasing productivity and controlling antestia and potato taste, and will reach both farmers and CWS operators. Radio and SMS messages will be used in both Rwanda and Burundi, and results will be compared across the two countries. Beyond the use of radio and SMS for sharing instructional information, GKI and other partners will use internet communication tools for communicating with policymakers, coffee companies, and others. AGLC will disseminate updates via listserv emails, and will hold Skype calls/Google Hangouts as appropriate to allow for information sharing between geographically dispersed network members and key stakeholders.

### **2.3.3. Capacity building approach in the DRC**

Coffee production in the DRC suffers from PTD and very low productivity, similar to Rwanda and Burundi. Buyers of coffee from DRC are eager to have the proposed initiative also improve the situation in DRC if there is a way this project can do it. The team's approach does not plan to conduct field research in DRC but all training bulletins and research results will be shared with coffee development projects and programs operating in eastern DRC. AGLC will also invite DRC coffee sector representatives and project administrators to attend the relevant technical project workshops on antestia control and productivity scheduled in Rwanda and Burundi. One of the in-country partners in Burundi (Agro-

Business Services) works on contract with a coffee program in DRC and the team will use this connection to as a potential liaison to DRC washing stations and other stakeholders there.

### 2.3.4. Year 1 capacity building activities/outcomes

Activity/Outcome	Quarter Due			
	1	2	3	4
<b>Capacity Building Component Activities/Outcomes</b>				
Develop training materials	■			
Organize farmers in modified FFS groups	■			
Hold training sessions on experimental fields	■	■	■	
Train broader sample of leader farmers in GAP (ABS)	■			
Develop and transmit radio broadcast messages	■	■	■	
Develop and pilot test system for farm-level SMS reporting of results		■		
Develop and transmit SMS messages		■	■	

## 2.4. Component 3: Policy Engagement

The coffee sector in Rwanda has experienced considerable transformation and reform over the past 15 years. Prior to 2001 there was no fully-washed coffee at all in Rwanda. All coffee was semi-washed and was marketed at auction through ordinary coffee market channels. Beginning in 2001 with the MSU-led PEARL project (Partnership to Enhance Agriculture in Rwanda through Partnerships) Rwanda established its first washing stations and specialty coffee market access. That movement has continued to gain momentum and today there are over 240 coffee washing stations spread throughout the country, some showing profits and success but others failing miserably.

However the policy environment, and the empirical basis on which good policy must be built, has struggled to keep pace with these recent and dramatic changes in how coffee is produced, processed and marketed. The aspirations and strategic planning in Rwanda have certainly reflected an admirable desire to grow the fully-washed sector and to produce higher quality (specialty) coffee,<sup>2</sup> but creating a policy environment that encourages farmers to produce more coffee and higher quality coffee has not been a dominant theme in that strategic thinking. Virtually all participants in the coffee value chain agree on the need to “grow the pie” through greater productivity at the farm level; there has not been adequate evidence-based dialogue about how to do it.

### 2.4.1. Approach to policy engagement in the coffee sector

Our approach to policy change, and the successful implementation of modified policies, will follow a series of steps that both government and key stakeholders must take together. These steps occur on

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<sup>2</sup> MINAGRI (2013). Strategic Plan for the Transformation of Agriculture in Rwanda (Phase III). Ministry of Agriculture and Animal Resources, Kigali, Rwanda.

the level of each policy change; thus, a policy that is developed in the first year of the AGLC program will follow the same rough process as a policy that is developed at the project's end. These steps are: (1) awareness of issues, in which government and stakeholders understand and agree on challenges facing them, (2) consensus on solutions, in which government and private sector stakeholders develop and agree on mechanisms that can be used to solve key challenges, (3) formulation of policies, in which the government takes the solutions developed through private sector stakeholder engagement and transforms these into actionable government policies and strategies, and (4) implementation of policies, in which government works with key stakeholders to implement policies, and monitors and evaluates their success.

Throughout AGLC project implementation the partners will work through these fundamental policy steps. For some interventions where issues and potential solutions are relatively clear (e.g., ensuring that coffee price premiums reach producers, etc.) we may be able to move through steps 1-3 of this process early on in the project. In general, however, Year 1 will focus on steps 1 and 2, while years 2-3 will focus on steps 2-4 of this process. Thus, in Year 1, we will focus on improving the policy environment through greater awareness of challenges and beginning to develop consensus on potential solutions based on baseline data collected through household and field level research and through key informant and focus group discussions with coffee sector stakeholder. In years 2 and 3, our focus will be on using field data to propose possible solutions, gain consensus on those solutions, support policymakers in their efforts to integrate these solutions into policy, and—in some cases—see these policies through to implementation.

#### **2.4.2. Year 1 Policy Engagement Actions and Outcomes**

In Year 1 the AGLC implementing partners in Rwanda will take strides to generate needed evidence and will engage with policy makers in the coffee sector around that empirical base to advance the dialogue and to align policy in support of the long-term goals of the sector's many stakeholders. Specific actions and outcomes will include the following.

***Key informant and focus group interviews.*** To elucidate the diversity of stakeholder positions on major policy issues affecting farmer investments in their coffee, GKI with IPAR will conduct a systematic series of 20-30 semi-structured key informant interviews and focus group discussions with coffee sector stakeholders, including government and private sector decision makers, producer groups, exporters, washing station managers/owners and dry mill managers/owners. It is essential for these conversations to begin early in the process to ensure that the stakeholder groups are able to “weigh in” on the issues and take ownership of the research and consensus-building process. As part of this process a brief survey instrument will be administered to these key informants to gauge their attitudes towards the most (and least) pressing issues and challenges facing the coffee sector.

These qualitative interview data will be compiled and synthesized by GKI (with partners) and the results will serve as the basis for a report and policy brief that helps to define points of common concern, as well as the critical decision points, where there are opposing views that must be addressed in an open and transparent manner. Helping to move stakeholders toward consensus and a shared sustainable vision for the sector is the overall goal of this process.

**Policy briefs and PowerPoint presentations.** During Year 1 the AGLC team will produce at least two policy briefs and related PowerPoint presentations to assist in the external communications and policy discussions. The policy briefs will be developed based on data from the baseline survey, the field-based data collection effort, and from the qualitative research through key informant and focus group discussions. GKI and MSU will coordinate the development of the policy briefs and presentations with UR and IPAR—partner organizations that are conducting field research. One policy brief will focus on how to raise farmer investments in coffee and will draw upon the cost of production and other baseline findings as well as the synthesized results from the focus group discussions. A second policy brief will be based on the results of the field-based data on antestia control and productivity enhancement. It will present recommendations for how public and private sector support (through farmer training and high performance inputs packages) can be used to accelerate the adoption of improved technologies.

**Roundtable/workshop stakeholder discussions.** The AGLC team will organize and facilitate at least 4 roundtable/workshop discussions aimed at ensuring that relevant stakeholders are aligned on the purpose of and planning for the project, sensitizing stakeholders to important opportunities to improve the coffee sector (e.g., enacting systems to ensure that coffee premiums reach producers), validating research outputs, and aiding decision makers to translate research outputs into actionable policy instruments.

In the first year of the project and initial roundtable will be held during the project kick-off conference and will be designed to ensure alignment of relevant partners/stakeholders, sharing opportunities for testing policy instruments, and an end-of-year workshop aimed at sharing initial research outputs (such as producer household and field-level research and baseline data). Partners will include team members from MSU, IPAR, UR and GKI. Stakeholders will include private sector, public sector, farmer organizations and other actors in the coffee value chain.

Between these two events the teams will organize in Rwanda two more focused roundtable discussions with stakeholders aimed at working through findings and recommendations introduced in the policy briefs. The goal will be to increase knowledge about the issues, notably constraints to farmer investment in coffee, and to work toward consensus about options for policy change and other practical steps required to increase the level of farmer investments.

**Communication and outreach tools.** GKI will organize communication and outreach to government as well as private sector, farmer groups, coffee washing stations, and others. GKI will make efforts to understand patterns of social mass communication—how, when, by what means different types of social messages are heard, understood, and used to best inform action. Communication tools will include informational documents, radio presentations, and other media (as appropriate) on lessons learned and best practices for coffee productivity and reduction of PTD. It will also include assisting other team members with the production of effective farmer and coffee washing station training/sensitization materials. GKI will specifically support the Rwanda-based implementing partners in drafting radio and SMS messages based on research results to reach a broad audience of coffee growers on priority issues in support of controlling antestia and increasing farmer investment in coffee productivity.

### 2.4.3. Constellation of targeted policy issues for Year 1

The policy issues that will be the target of AGLC attention in Year 1 surround the larger question of how to raise producer-level investment in coffee. Three fundamental aspects to the farmer investments question are: 1) understanding the real cost of coffee production to farmers and how it affects their investment decisions, 2) ensuring that the real cost of production is fully integrated into sector planning and management (including, where feasible, the process for setting coffee cherry prices), and 3) coffee cherry payments (pre-financing) and the tradeoffs farmers face in choosing to process and market their coffee through semi-washed channels rather than the preferred fully-washed channels. The three issues are closely related and through AGLC's policy engagement activities in Year 1 we will strive to address them in an integrated fashion as follows.

***Documenting the real cost of production.*** The distribution formula for coffee sales revenues to various stages in the value chain (production, wet milling, dry milling, exports) is set by the coffee stakeholder committee in on an annual basis. This formula has been a source of debate for several years and has significant implications for whether farmers choose to invest their labor, land and cash in coffee. If coffee is seen as a profitable investment relative to other crops then farmers are inclined to make the necessary investments. There are some indications based on reports from the field that the allocation of revenues to farmers in Rwanda, which has implications for the formula used to set the cherry floor price, merits a careful review by stakeholders to better understand and apply its underlying assumptions.

Profitability at the farm level is closely tied to the actual cost of production, a cost that has not been adequately documented in Rwanda. Without a regular determination of the real cost of production to the farmer, and at what threshold levels farmers will cease to invest in their coffee, sector planning and management becomes an inherently very difficult, if not impossible, job. Less guesswork and clear assumptions are critical. AGLC can help to inform this process, and encourage engagement and transparency. Helping decision makers to become knowledgeable about how farmers will be affected under different cherry price scenarios and how volumes of cherry will shift to and from the fully-washed versus the semi-washed market as a result will be an important project contribution.

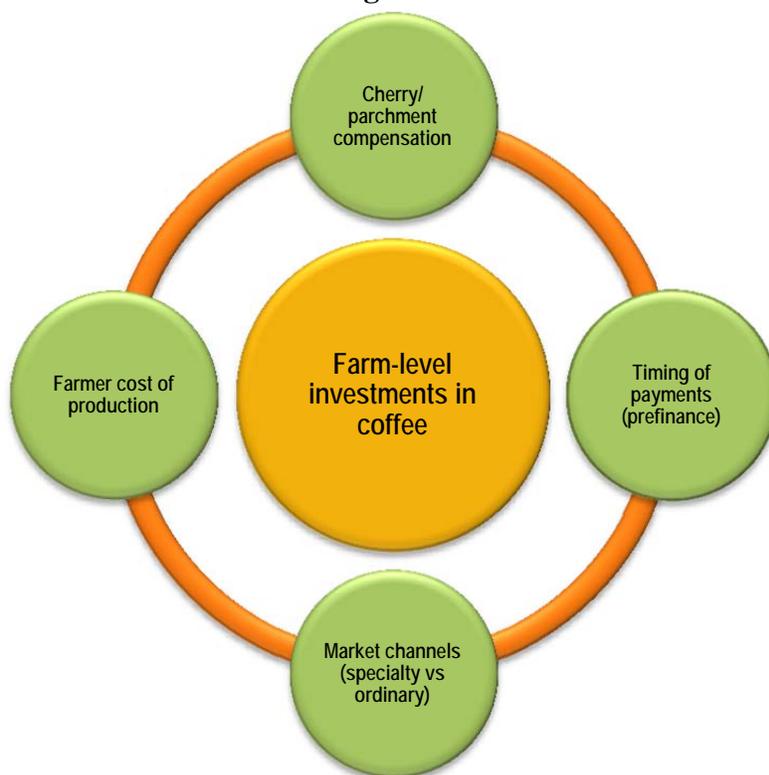
**Ensuring that the real cost of production is fully integrated into sector planning and management.**

Cost of production data will be collected in the applied research component of Year 1. With these data in hand the AGLC partners will open the dialogue with public and private sector stakeholders in the coffee value chains about steps that can be taken to ensure that actual cost of production will be accurately estimated on a regular basis and will take account of changes in labor and inputs costs. One important ancillary issue emerging from recent research in the region is whether coffee should be promoted at all among the very smallest coffee producers, those who struggle the most to make coffee production profitable. The cost of production analysis is expected to identify the levels at which farmers cross the threshold from unprofitable to profitable coffee production. Indeed, it is observed in Rwanda and elsewhere in the region that the incentives coffee growers are often distorted to the point where smallholder farmers routinely resell the subsidized pesticides they receive to local traders and others who reportedly market them in Tanzania. The baseline survey will help to illuminate these sorts of distortions and how they can be mitigated.

**Timing of payments and market channels.** An undesirable related trend in the Africa Great Lakes region is seen in the large and, in some cases, growing share of coffee cherry sold in the semi-washed, ordinary coffee channels, as opposed to the fully-washed specialty coffee market. Some farmer groups in the region are finding it increasingly in their interest to process coffee on their own farms, selling to local traders in the low-quality semi-washed market, compared to transporting it to the cooperative or washing station where it will be fully washed and potentially sold at a premium price reflecting that value added.

This shift toward semi-washed coffee is particularly evident in low production years. In such years some washing stations in the region are reported to be operating at less than 20% of capacity, a losing proposition for them whether as cooperatives or private businesses. The timing of payments for cherry are known to figure large in how and where farmers sell their cherry; the semi-washed channel ordinarily provides immediate payment for parchment, while payments washing stations are commonly

**Figure 1**



delayed and staggered across the season. Limited access to pre-financing by CWSs, particularly smaller ones with cooperative management, and the liquidity constraints that causes for producers, is reported to be one of the leading drivers of the trend toward semi-washed, low quality market channels. Data from the baseline survey will help to determine how farmers make this important decision and under what price points and payment scenarios farmers shift to the semi-washed channel.

These factors, together with farmer compensation levels and farm-level cost of production, are believed to be among the major determinants of farmer investments in coffee, as depicted in Figure 1; they constitute the constellation of factors and issues that AGLC will target for policy engagement in the project’s first year, beginning with the kick-off conference in October. Year 1 survey data, key informant interviews, focus group discussions and roundtables with policy makers will address this constellation of factors and issues head-on. Not only do these factors affect farmer investment in productivity but for all the same reasons they affect the incidence of antestia/PTD. Other Year 1 outputs, such as the review of literature and findings from other coffee-growing countries in the region, will similarly address the integrated questions of farmer cost of production, cherry floor price determination, timing of payments and market channels.

#### 2.4.4. Year 1 policy engagement activities/outcomes

Activity/Outcome	Quarter Due			
	1	2	3	4
<b>Policy/Stakeholder Engagement Component Activities/Outcomes</b>				
Identify and engage key policy actors in coffee sector	■			
Conduct policy analysis to identify primary constraints	■			
Engage policy makers in priority policy issues and research	■			
Hold 10-15 key informant interviews w/ gov't & private sector decision makers	■	■		
Hold 10-15 Focus group discussions w/ gov't & private sector decision makers	■	■		
Hold advocacy round tables with coffee sector decision makers (presentation of results, discussion of policy issues and recs)	■	■		
Prepare policy briefs				
Policy brief on cost of production and farmer investments			■	
Policy brief on field-based PTD/antestia control and improved productivity research				■

#### 2.5. Monitoring and Evaluation

The AGLC Year 1 monitoring and evaluation (M&E) program follows the three-component approach and logical framework presented in this work plan. Policy and capacity building will be informed by data from applied field research and other activities at the farm and washing station levels. Team members from Michigan State University (MSU) will guide the implementing partners in Rwanda and Burundi in developing and implementing a program to track progress and assess impacts in both countries. The M&E plan for AGLC contains two levels of indicators. The first are the “core indicators” that will be tracked as a part of the project’s official and approved M&E plan (including FTF and FSP-IR indicators); the second is comprised of a set of indicators tailored to the broader M&E plan that will be tracked for internal management purposes.

A core set of six key indicators have been identified for gauging AGLC results and for inclusion in the project’s tracked and officially reported results. The selection of key indicators is based on three criteria: 1) they apply to the most important goals of the program, 2) they intersect with the Feed the Future Food Security Program Innovation Lab (FSP-IL) “leader award,” and 3) they can be validly measured and tracked in the context of the AGLC project. The six core indicators are summarized in the table below.

The second tier indicators are those that are closely tied to the stated project results and will be used mainly to inform project planning and management decisions. This group will also be derived mainly from the implementation of research, capacity building and policy engagement activities and will contain the specific deliverables attached to those activities. They are also listed illustratively in the summary indicators table below.

**Table 1**  
**AGLC Indicator Matrix**

Indicator	Project Component			Feed the Future or FSP Leader Award Indicator
	Applied Research	Capacity Building	Policy Engagement	
<b>M&amp;E Core Indicators</b>				
1. Incidence of antestia/PTD observed in the field	■	■		
2. Number of farmers and others who have applied improved technologies or management practices	■	■		4.5.2(5)
3. Number of policy instruments (briefs, presentations, reports on targeted policy issues			■	FSP - SR1
4. Number of new data sets informing food security policies			■	FSP - SR2
5. Increased farmer investment (land, labor, capital) in their coffee plantations	■	■	■	4.5.2(38)
6. Percent of producer cherry processed through fully-washed channels	■	■	■	
<b>M&amp;E Second Tier Illustrative Planning/Management Indicators</b>				
1. Farmer and washing station awareness of PDT/antestia problem	■	■		
2. Farmer awareness of best practices for improved productivity	■	■		
3. Access to pesticides/IPM and equipment for controlling PTD/antestia	■		■	
4. Farmers trained on best practices for PTD mitigation and/or improved productivity		■		4.5.2(7) and FSP SR5
5. Production (kg cherry harvested)	■	■	■	4.5.2(23)
6. Prices received per kg cherry, USD/kg cherry equivalents	■	■	■	4.5.2(23)
7. Percent of payments at washing stations collected by women	■	■		
8. Women's Empowerment in Agriculture Index (WEAI)	■	■	■	4.5(19)
9. Stakeholder levels of satisfaction and confidence in policy-making processes			■	
10. Number of policy issues that complete defined stages of policy development			■	FSP Sub IR 1.3
11. Number of stakeholder engagement sessions held	■		■	FSP - SR3

### 2.5.1. M&E program Year 1 implementation (Oct 1, 2015 – Sep 30, 2016)

M&E activities in Year 1 will be focused on putting systems in place assess AGLC progress and impact against intermediate outputs and relative to the longer-term goals. The Year 1 baseline household survey will provide an early benchmark against which to evaluate progress and impact. It will be fielded during the first quarter of Year 1 and will address many of the project indicators summarized above. The

baseline will also be designed to capture data on key gender-sensitive issues such as access to cherry sales revenues and decision making on coffee production investments and marketing channels.

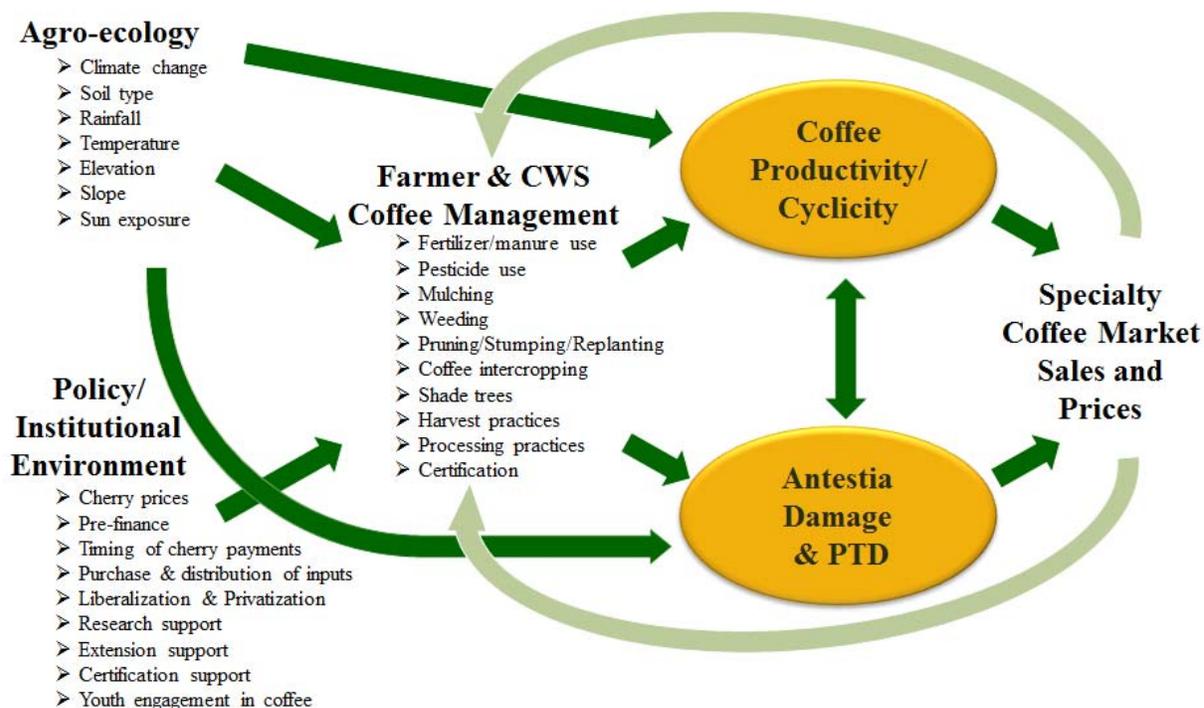
In the first quarter of Year 1 AGLC staff will be focused on setting up the M&E tracking system. The final M&E plan will be drafted by mid-October 2015 and reviewed by partners during the kick-off conference in Kigali. The plan will include indicators for each of the three project component parts, as summarized illustratively in the indicator table above. A final M&E Plan which contains a sub-set of officially tracked indicators will be submitted to USAID no later than October 18, 2015. The M&E program will contain Performance Indicator Reference Sheets (PIRS) for the key indicators and where appropriate will be entered into USAID/Rwanda's AidTracker Plus system.

During the first quarter efforts will also go towards designing and implementing the baseline and field-based surveys that will be administered at the household and CWS levels in the four sampled districts/communes and will include control plots in both countries. These surveys will provide much of the baseline information on the target M&E indicators. Data will also be tracked in the system on key informant interviews and focus-group discussions conducted with stakeholders at all points in the coffee value chain.

At the end of quarters 2 and 3 data will be collected from sampled coffee producer households using a short instrument aimed at collecting data from the full 1,024 producer households (in each country) exclusively on the program indicators and for M&E purposes. As described earlier, AGLC will also experiment with the use of SMS for tracking certain M&E/PMP indicators. These may include access to pesticides through the CEPAR/InterCafé distribution system and the prices received for coffee sales. Percentage of cherry sales in the fully-washed versus semi-washed channels will also be a possible indicator tracked using the pilot SMS system.

## ANNEX 1

### Conceptual Framework for Burundi and Rwanda Coffee Productivity, Cyclicality and Potato Taste Defect



## Annex 2: Overall Year 1 Timeline

Africa Great Lakes Region Coffee Support Project Timeline (Project Year 1)												
←2015 2016→												
Activity/Outcome	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
<b>Project Start-up Activities/Outcomes</b>												
Establish partner SOWs	■											
Establish subcontracts with partners	■											
Prepare initial reports/PPTs for Kick-off Conference	■	■										
Kick-off Conference (Kigali, IPAR/GKI convene)	■											
Work plan development and submission	■											
M&E development and submission	■	■										
Procure tablets for data collection	■	■										
<b>Applied Research Component Activities/Outcomes</b>												
Research design	■	■	■	■								
Sample frame development	■	■	■									
Field sample frame development (incl CWS)		■										
Define technology packages for field implementation												
Training and setup of CSPro Mobile		■	■									
Recruit enumerators		■	■	■								
Letter from IPAR/NAEB and into in Districts		■	■									
Develop Baseline Survey Instrument	■	■	■	■	■	■	■	■	■	■	■	■
Develop Field-based Instrument	■	■	■	■								
Develop CWS and owner Instrument												
Listing of producer HHs in 16 CWSs			■	■								
Sample selection of 4 x 16 farms for Agronomic data			■	■								
Convert instruments to CSPro	■	■	■									
Pretest and revision of instruments				■	■							
Enumerator field training				■	■							
Experimental/demo field selection process	■	■	■									
Train experimental farmer (N=64)		■										
Field-based Survey data collection (N=64)				■	■	■	■	■	■	■	■	■
Soil sample analysis on sampled fields						■	■	■				
Compile climate data (rainfall, temperature, elevation, moisture, etc.)							■	■	■			
<b>Baseline Survey Implementation</b>												
Baseline Survey data collection (N=1024 in each country)				■	■	■	■	■	■	■	■	■
Baseline CWS data collection (N=16 in each country)				■	■	■	■					
Compile baseline survey data in CSPro			■	■								
Convert baseline data to SPSS/Stata			■									
Clean baseline data (range and consistency)			■	■								
Data coding (open-ended Qs to numeric data)				■	■							
Data transformation				■	■	■						
Data analysis					■	■	■	■	■			
Draft baseline HH report						■	■	■	■			
<b>Field-based Experimental Research Implementation</b>												
Field-based data collection (N=64)		■	■	■	■	■	■	■	■	■	■	■
Compile field-based survey data in CSPro									■	■		
Convert field-based data to SPSS									■			
Clean field-based data (range and consistency)									■	■	■	
Data coding (open-ended Qs to numeric data)										■	■	
Data transformation										■	■	■
Analysis of field-based data										■	■	■
Draft field-based research report											■	■

	←2015			2016→								
Activity/Outcome	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
<b>Capacity Building Component Activities/Outcomes</b>												
Develop training materials		■ ■										
Organize farmers in modified FFS groups		■ ■ ■ ■										
Hold training sessions on experimental fields		■ ■		■	■	■	■	■	■			
Train broader sample of leader farmers in GAP (ABS)		■ ■										
Develop and transmit radio broadcast messages		■	■	■	■	■	■	■				
Develop and transmit SMS messages			■	■	■	■	■	■	■			
Develop and pilot test system for farm-level SMS reporting of results												
<b>Policy/Stakeholder Engagement Component Activities/Outcomes</b>												
Identify and engage key policy actors in coffee sector	■ ■ ■											
Conduct policy analysis to identify primary constraints	■ ■ ■											
Engage policy makers in priority policy issues and research	■ ■ ■											
Hold 10-15 key informant interviews w/ gov't & private sector decision makers				■ ■ ■ ■ ■ ■ ■ ■								
Hold 10-15 Focus group discussions w/ gov't & private sector decision makers				■ ■ ■ ■ ■ ■ ■ ■								
Hold advocacy round tables with coffee sector decision makers (presentation of results, discussion of policy issues and recs)						■ ■ ■						
Prepare policy briefs												
Policy brief on cost of production and farmer investments								■ ■ ■ ■				
Policy brief on field-based PTD/antestia control and improved productivity research											■ ■ ■ ■	
<b>Progress Reports and Data Activities/Outcomes</b>												
Semi-annual Progress Report (mid-year)						■ ■ ■						
Semi-annual Progress Report (end of year)												■ ■ ■
Stakeholder/National Workshop to present research, capacity building and policy engagement results (UR/GKI will convene)												■
Monitoring & Evaluation (M&E) Reporting				■			■			■		■