BASELINE STUDY FOR GUATEMALA FOOD FOR PROGRESS PROJECT

RFP NUMBER: FFPR16-RFP-01-2017

FINAL BASELINE REPORT WITH PMP BASELINE INDICATORS

USDA

COUNTERPART INTERNATIONAL
In partnership for results that last.

ECI Gestión para el Desarrollo Humano

ACCIÓN CONTRA EL HAMBRE

Baseline Study for FY 2016 Guatemala Food for Progress Project

Program: Food for Progress
Agreement Number: FCC-520-2016/013-00
Funding Year: Fiscal Year 2016
Project Duration: 22016-2021
Implemented by: Counterpart International

Evaluation Authored by:
ECI – Human Development Management
Action Against Hunger

DISCLAIMER: This evaluation was conducted by an independent third party firm. The views expressed in this report do not necessarily reflect the views of the United States Department of Agriculture or the United States Government.

Accessibility Note: An accesible versión of this document can be made available upon request by emailing FAS.Monitoring.Evaluation@usda.gov

EXECUTIVE SUMMARY

Project background and assessment purpose

The Food for Progress 2016 (FFPr) project is a five-year intervention financed by the United States Department of Agriculture (USDA) and implemented by Counterpart International, that will be implemented in the Guatemala Western Highlands departments of Huehuetenango, San Marcos, Quetzaltenango, Sololá, and Quiche. It aims at boosting agricultural production and trade by increasing the use of improved agricultural techniques and technologies among target populations, and improving linkages between buyers and sellers. Its objectives are (1) To support capacity-building programs and deliver strategic training with the purpose of boosting the capacity of Guatemala's Ministry of Agriculture, Livestock, and Food (MAGA) to effectively manage the National Rural Extension System (SNER) and (2) To increase agricultural productivity by addressing market access and food security challenges; strengthening the skills and technical knowledge of the public, NGO, and private sector extension agents; and developing the capacities of coffee producer groups.

In order to reach these objectives, seven activities will be implemented with the support of multiple partners, including the National Coffee Association (ANACAFE), the Faculty of Agriculture, University of San Carlos (FAUSAC), the Federation of Guatemalan Agricultural Coffee Producer Cooperatives (FEDECOCAGUA), MAGA, the Federated Cooperative of Credit Unions (MICOOPE), and the University of California, Davis (UC Davis). The seven activities are meant to: develop MAGA's institutional capacity, provide support for the implementation of a Certification Program for rural extensionists, strengthen farmer organizations, provide cash and in-kind grants to farmer organizations, train farmers in agricultural production techniques and farm management, facilitate agricultural lending, and improve farmers' access to markets.

In this context, Counterpart requested a Baseline Assessment for the FFPr 2016 in Guatemala, with the purpose of obtaining quantitative and qualitative baseline data for the Project Monitoring Plan, fine-tuning the project's annual target indicators, and establishing the basis and benchmarks for the Mid-term and Final evaluations of the program.

Methodology

In order to conduct the baseline assessment, complementary quantitative and qualitative research methodologies were employed. It included a survey conducted on 826 farmers, and interviews and focus group discussions with farmers, extension agents and key informants from Counterpart and all local partners. With regards to the survey, a cluster-sampling was implemented. Firstly, 26 municipalities of a list of 75 provided by Counterpart were randomly selected. As a result of requests from different project partners, some of these municipalities were modified. Finally, the survey was conducted in one community of each of the selected municipalities, with the support of ANACAFE and MAGA. Likewise, qualitative fieldwork was conducted in Guatemala City and in three selected departments: Huehuetenango, Quetzaltenango, and San Marcos. In total 22 interviews and focus group discussions with Counterpart and partners' authorities and staff, as well as 8 focus groups with farmers were implemented. Results were obtained using SPSS software as well as qualitative content analysis.

Highlighted findings

Activity 1. Capacity building: Government institutions (MAGA). MAGA is a relatively weak institution as a result of multiple reasons, among which the high rotation of technical personnel and the predominance of a political rationale over a technical one highlight. Different institutions, such as the Food and Agriculture Organization of the United Nations (FAO) and the European Commission are implementing actions to strengthen the MAGA. FFPr 2016 should coordinate capacity building actions with them in order to synergize efforts.

Activity 2. Capacity building: Agricultural extension agents and services (Certification Program). FFPr 2016 will continue supporting the Certification Program that was developed during FFPr 2012. Counterpart expects to transition full responsibility of the Certification Program to the FAUSAC during this project. This seems to be an interesting strategy but may find problems with regards to whom will assume the cost for the program.

Activity 3. Capacity building: Producers groups and cooperatives, & FFPr Activity 4. Cash and in-kind grants: Inputs, equipment, post-harvest infrastructure. Counterpart will implement activities 3 and 4 directly, as it did in FFPr 2012, without the intermediation of any partner. Nonetheless, different interviewees recommend that Counterpart coordinates with extension institutions such as ANACAFE, FEDECOCAGUA and MAGA before selecting beneficiaries so to assure the follow up of the project after Counterpart's withdraw.

Activity 5. Training: improved agricultural production techniques and farm management. Activity 5 will be implemented jointly with ANACAFE and FEDECOCAGUA, it will be the first time that Counterpart work with them as partners. Access to technical assistance and market information is an essential need for farmers and for the associations and cooperatives within which they partake, however, the ratio between rural extensionists and number of farmers seems to be very low in the area, particularly in the case of ANACAFE. Survey results show that the implementation of different improved techniques and technologies as well as agricultural yield, are low. This is clearly a problem, but also suggests that there is an important margin for improvement. When asked, farmers argued that they did not used specific improved technologies due to three different reasons: lack of knowledge of their existence, lack of technical assistance, and lack of capital or credit to invest. Training activities planned in the context of Activity 5 will address the first limitation, while grants (activity 4) and credit (activity 6) will contribute to overcome the lack of capital.

Activity 6. Financial services: Facilitate agricultural lending. Access to credit is fundamental to farmers, yet only a low percentage of them have access to financial services. Coffee growing is particular in terms of its specific financial needs, due to the fact that a coffee plant requires between 3 and 4 years before it produces enough fruit to be profitable. For this reason, there is currently no specific credit line for coffee farmers in Guatemala. In the context of FFPr 2016, MICOOPE has committed to taking on this task. However, creating a specific financial product for coffee growers in the market may take up to two years, according to this institution. Furthermore, even in the case that such product become operational, it is clear that not all farmers will be able to access it, because many farmers are poor and do not have enough creditworthiness.

Activity 7. Market access: Enhance producer marketability. Activity 7 will be implemented jointly with ANACAFE, FEDECOCAGUA, as well as MICOOPE. Qualitative fieldwork and quantitative survey results show that most farmers sell their produce to intermediaries, because despite of the fact that they sometimes offer lower prices, they pay in cash and farmers do not have to wait until the final buyer had paid, as it usually happens when they sell to cooperatives or associations. Importantly, most farmers have no knowledge neither experience in the use of marketing techniques or strategies. FFPr 2016 could contribute to improve market access supporting the strengthening of farmers' organizations and training farmers and rural extensionists in marketing techniques and strategies.

Reflections and recommendations

- FFPr 2016 has 39 indicators, 13 of them FFPr standard indicators. Baseline results suggest that some non-standard indicators may lack a clearer definition, and that monitoring such a (long) list of indicators could prove to be difficult and even excessively bureaucratic. Moreover, there is a potential for overlapping between several of them, while others seem to be out of the project activities' sphere of influence. Thus, it seems advisable to develop an extended definition for all non-standard indicators and eliminate those which may overlap or are out of the project's control.

- USDA's decision to limit potential FFPr 2016 beneficiaries to smallholders who did not previously receive support from USDA or the US Agency for International Development (USAID) is central and frames the project in different ways. All FEDECOCAGUA's cooperatives and associations that are located in Huehuetenango and San Marcos have received benefits from Rural Value Chains Project (PCVR), funded by USAID, which implies that ANACAFE would be the only possible partner for activities 5 and 7 in both departments. On the other hand, the USDA decision also poses a challenge to MICOOPE and to activity 6, because MICOOPE aims to work with the most creditworthy farmers, and these could be so as the result of having previously accessed support from the US government. In this context, it will be essential to clarify whether or not farmers formerly supported by USDA or USAID could participate as indirect beneficiaries of the project.

- Finally, it is important to note that synergies will be critical for the success of FFPr 2016. Firstly, it is important to create synergy between different FFPr 2016 activities, so that each one can be used to boost others. And secondly, synergies between institutions and partners are essential and can be achieved by acknowledging the potential of each partner not only for implementing specific activities, but also for enhancing all of them.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

ACRONYMS

ACH	Action Against Hunger (International humanitarian organization conducting the baseline study in association with ECI)
ANACAFÉ	National Coffee Association (Spanish acronym)
BANRURAL	Bank of Rural Development of Guatemala, corporation
CADERS	Rural Development Learning Centers (Spanish acronym)
ECI	"ECI – Human Development Management" is the consultancy company conducting the baseline study in association with ACH
EFA	Guatemala Agricultural Middle Training Schools (Spanish acronym)
ENA	"Emergency Nutrition Assessment" software for survey planning and analysis (as well beyond nutritional purposes)
ENCA	National Central School of Agriculture (Spanish acronym)
FAO	Food and Agriculture Organization of the United Nations
FAUSAC	Faculty of Agriculture, University of San Carlos (Spanish acronym)
FEDECOCAGUA	Federation of Guatemalan Agricultural Coffee Producer Cooperatives (Spanish acronym)
FGD	Focus Group Discussion
FFPr	Food for Progress Program
GAT	Group of Friendship and Work
GoG	Government of Guatemala
GUATEINVIERTE	Rural Development Trust 'Guatemala Invierte' [Guatemala Invests]
ICTA	Spanish Acronym for Institute of Science and Technology
IFAD	International Fund for Agricultural Development
IR	Inception Report
KII	Key Informant Interviews

MAGA	Guatemala Ministry of Agriculture, Livestock and Food (Spanish acronym)
M&E	Monitoring and Evaluation
MICOOPE	Federated Cooperative of Credit Unions (Spanish acronym)
OD	Organizational Development
ODK	A survey (questionnaire) implementation software
PCVR	Rural Value Chains Project (Spanish acronym)
PMEP	Performance Monitoring and Evaluation Plan
PPS	Probability Proportional to Population Size
PMP	Project Monitoring Plan
RFP	Request for Proposals
RC	Results Chain
SNER	National Rural Extension System (Spanish acronym)
SOW	Statement of Work
SPSS	Statistical Package for the Social Sciences
TNA	Training Needs Assessment
ToR	Terms of Reference
TVET	Technical and Vocational Education and Training
UC Davis	University of California, Davis
UNEG	United Nations Evaluation Group
USAC	University of San Carlos of Guatemala (Spanish acronym)
USAID	US Agency for International Development
USDA	United States Department of Agriculture

01/ INTRODUCTION

In this report, the results of the baseline assessment of the FFPr 2016 project are presented. The structure of the report follows the general recommendations of the Terms of Reference (ToR). Thus, firstly, the project's background and the assessment purposes are featured. A description of the methodology follows along with the results obtained. Finally, this report outlines some recommendations regarding the indicators and the future implementation of the project.

1.1 BACKGROUND AND PROJECT DESCRIPTION

The FFPr 2016 is a five-year intervention financed by USDA and implemented by Counterpart International[1]. It aims at boosting agricultural production and trade by increasing the use of improved agricultural techniques and technologies among target populations, and improving linkages between buyers and sellers.

The objectives of the FFPr are:

1. To support capacity building programs and deliver strategic training with the purpose of building capacity at the Guatemala's Ministry of Agriculture, Livestock, and Food (MAGA). This aims at helping MAGA to effectively manage the National Rural Extension System (Sistema Nacional de Extensión Rural – SNER) to effectively expand agricultural production and trade.
2. To increase agricultural productivity by addressing market access and food security challenges; strengthening the skills and technical knowledge of public, NGO, and private sector extension agents; and developing the capacities of coffee producer groups.

These objectives will be supported by the following activities:

1. Work with MAGA to build its capacity to more effectively manage its extension services. Counterpart International will utilize its Organizational Development (OD) Toolkit to develop a capacity-building action plan of customized trainings, technical assistance, and mentoring to improve MAGA's management of SNER;
2. Further develop the Agricultural Extension Agent Certification Program, built on prior MAGA capacity building work, to train MAGA, NGO, and private sector extension agents in the tools, techniques, practices and delivery of extension services;
3. Build the capacity of coffee and horticultural producer groups, including Rural Development Learning Centers (Centro de Aprendizaje para el Desarrollo Rural – CADERs), associations, and cooperatives, to provide technical assistance to smallholder farmers;
4. Provide capacity-building grants to competitively selected producer groups, (CADERs, associations and cooperatives) to support agricultural development activities such as technical services, on-farm equipment, and agricultural inputs;
5. Provide training on improved agricultural production practices and technologies, as well as farm management to producer groups in coffee and horticultural crops, as needed;

[1] As per Cooperative Agreement # FCC-520-2016/013-00 signed by the parties on September 28, 2016.

6. Facilitate agricultural lending for coffee and horticulture producer groups by working with Guatemalan financial institutions to expand the outreach and availability of financial products in the agricultural sector;
7. Implement trade promotion activities, including the facilitation of establishing fair trade, Good Agricultural Practices (GAP) or organic coffee certifications, to support producer groups to expand their sales in new and established markets. Counterpart International will develop a network of technicians who will assist producer organizations in obtaining and maintaining fair trade or similar value-added coffee certifications.

Specifically, the program focuses on geographic areas, within Guatemala, where coffee is the dominating value chain: the departments of Huehuetenango, San Marcos, Quetzaltenango, Sololá, and Quiche.

1.2 ASSESSMENT PURPOSES AND SCOPE OF WORK

The Statement of Work (SOW) of the assignment indicates that this assessment is meant to serve the following purposes:

- To provide baseline data for the Project Monitoring Plan, and a basis for Counterpart to fine tune the project's annual target indicators, and
- To provide the basis and benchmarks for the Mid-term and Final evaluations of the program.

The Baseline Assessment is also expected to present reliable background information and analysis concerning:

1. The current conditions and realities in the agricultural sector, and
2. The overall economic situation in the targeted five departments of the Western Highlands of Guatemala, with a specific focus on small holder farmers/producers, focusing, primarily but not exclusively, on coffee farmers.

The baseline assessment has adopted a variety of tools and employed both qualitative and quantitative methods for collecting and providing baseline data from the following groups of stakeholders and potential beneficiaries:

- CADERS, cooperatives and farmers' associations;
- Individual farmers and extension agents operating in the targeted municipalities;
- Major local partners such as MAGA, SNER, MICOOPE, FAUSAC, ANACAFE, and FEDECOCAGUA.

This baseline study has also taken into consideration the following: the Project Results Framework, the Monitoring Plan as well as the evaluation design, methodology and findings of the Final Evaluation of the FFPr 2012 Program also implemented by Counterpart in Guatemala during 2012-2016.

The SOW requests to provide baseline (quantitative) data for 19 out of 39 indicators of the FFPr 2016 (see Annex 1 'Terms of Reference'), as well as contribute reliable data on the following main aspects:

1. Current average volume/value of sales by project beneficiaries.

2. Current average income level of project beneficiaries.
3. Current average yield per hectare for coffee and other major crops.
4. Number of hectares under improved techniques and technologies.
5. Percentage/number of target population being served by the Rural Extension System Agents.
6. Number of individuals/farmers in target areas applying new techniques and technologies.
7. Level of farmers' satisfaction by the provided/available extension services.
8. Percentage of target population accessing financial services for Ag production purposes.
9. Total amount of loans disbursed to the smallholder farmers.
10. Average level/percentage of post-harvest losses in the target areas.
11. Current storage capacities in the target areas.

02/ METHODOLOGY

In order to conduct the baseline assessment, complementary quantitative and qualitative research methodologies were employed. These included a survey conducted on 826 farmers, and interviews and focus group discussions with farmers, extension agents and key informants from Counterpart and all local partners. In this subtitle, the methodology employed is described.

2.1 QUANTITATIVE METHODOLOGY

2.1.1 Type of survey and selection procedure

The baseline survey has a cross-sectional design and used a three-stage approach to sampling:

1. The first stage consisted of establishing a primary sampling unit which was the municipality
2. The second stage was comprised of a selection of one community within each municipality
3. The third stage selected the basic sampling unit, which is the individual farmer (identified through farmer associations such as CADERs, cooperatives, associations or mutual support groups).

Two, independent sampling stage-procedures were performed using standard statistical and survey software packages[2]. The first stage consisted of cluster-sampling in order to select the clusters located in different municipalities, applying the "Probability Proportional to Population Size (PPS)" approach. The municipal random-selection was done in two steps. The first step consisted of a full random draw of 26 municipalities out of a list of the 75 Preliminary Project Intervention Municipalities, as defined in the Terms of Reference (see Annex A1). The selection of 26 clusters (i.e. municipalities) is based on the sample requirements, the determination of which is explained below. Three from the original selection were subsequently replaced due to requests from different implementing partners (ANACAFE and FEDECOCAGUA) regarding the fact that these municipalities had a very low number of coffee producers[3].

[2] ENA (Emergency Nutrition Assessment) software was used to carry out the random draws based on the Probability Proportional to Population Size (PPS) method. Despite the fact that ENA was designed by nutrition professionals, its functions fit the needs for planning, quality control and descriptive analysis of any non-nutrition survey as well.

[3] Coffee producers are the main beneficiary group of the FFPr 2016

When the baseline survey was conducted, the implementation of the FFPr 2016 had not begun, nor had the beneficiaries been selected. This means that, at the moment of designing the survey sample, only the municipalities preliminarily selected for implementing the FFPr 2016 were known, but no specific communities inside these municipalities, CADERs or other producer organizations or final beneficiaries had been defined. This fact is in line with the purpose of the baseline study – to provide information of performance level of specific development topics at target population level (small coffee and other farmers) that Counterpart plans to support. Quantifying the baseline will allow Counterpart to, first, characterize more precisely the exact profile of beneficiaries to be selected; and, second, in line with this profile, define the targets, goals and milestones to achieve during the implementation period of the FFPr 2016.

During the inception phase, the following community (cluster) selection procedure was defined, in agreement with Counterpart. The baseline team received a list of all communities from the 26 pre-selected municipalities for the implementation of the baseline study and made a second, random (community) selection, independent from the community size.[4] In each selected community, an open invitation was distributed through CADERs, associations and other types of farmer groups to participate in the survey that took place at a central meeting point on the agreed day of survey implementation. The required condition for farmers to be accepted as valid interview partners for the survey was them not having been beneficiaries of any previous US Government financed aid project. Since the FFPr 2016 aims to support mainly small coffee farmers, the invitation to participate in the survey was made in 20 communities (clusters) by ANACAFE (an institution that works only with coffee farmers), and in 6 by MAGA (which works mainly with small horticultural farmers). In the first case cooperatives, associations or groups of coffee farmers were surveyed, while in the second, CADERs.

2.1.2 Sampling universe

Based on the geographic area designed for program implementation, the survey was conducted in the Western Highlands of Guatemala (departments of Huehuetenango, San Marcos, Quetzaltenango, Sololá and Quiche) with coffee and horticultural producers from all of these 5 departments. The project document for the FFPr 2016 refers to an intervention area of up to 100 municipalities, out of with 75 of them have already been defined, according to the SOW. These 75 municipalities constituted the geographic universe for the baseline sampling exercise.

2.1.3 Sampling framework and size

A sample size of a total of 777 farmers to be surveyed (based on the FFPr final evaluation methodology and FFPr total number of planned beneficiaries) has been defined as minimum requirement to allow for the envisaged levels of representativeness and confidence interval (see below). However, the final sample size of valid interviews surpassed this minimum level. In fact, 826 interviews were conducted, out of which 77.2% were with coffee farmers, and 22.8% with smallholders who only produced vegetables, mostly corn and kidney beans.

The minimum number of farmers required for the sample was calculated using the standard formula for cluster sample sampling:

$$n = \frac{Z^2Np(1-p)}{(A^2N) + (Z^2p[1-p])}$$

[4] This means that all communities, independently of their size, had the same (uniform) probability to be selected through the random draw.

n: is the sample size required
N: is the whole target population (universe)
P: is the average proportion of records expected to meet the various criteria, and (1-p) the average proportion of records not expected to meet those criteria (set in a conservative estimation at constant 0.5)
A: is the margin of error deemed to be acceptable (calculated as a proportion, in our case 3.5% provides A = 0.035)
Z: is a mathematical constant defined by the Confidence Interval chosen (i.e. how sure we need to be of the result)

Given an estimated population of 44.898 coffee producers in the project intervention area (according to ANACAFE's estimations), with a confidence level of 95% (statistical representativeness); a conservative estimated prevalence of 50% (as standard proportion of any result to be observed); a conservative design effect of 2; and a margin of error (confidence interval) of 3.5%, a total of 777 interviews were required to be carried out.[5] This amount of responses provides statistically significant and representative results. Given that the non-response rate was lower than expected, the team managed to collect 826 valid responses. With this sample size increase, the standard error for general results decreased from 3.5 to 3.39.

2.1.4 Number of clusters

At a conceptual level, a 'cluster' is a group of related elements. In the context of this report, the word 'cluster' refers to a group of smallholders who live in the same community. As mentioned above, during the implementation of the survey, 26 clusters were randomly selected. Each of these had an originally defined size of 30 interviews, and was meant to represent one municipality. The main reason why each cluster represents one municipality is that respondents in the same cluster are likely to be somewhat similar to one another. As a result, in a clustered sample, selecting an additional member from the same cluster adds little new information (so the cluster size should not be too big). Regarding the need for the independence of clusters, it must be considered that "independent" (not overlapping) clusters are required for ensuring the statistical power of the results. It must also be taken into consideration that high intra-cluster correlation combined with a small number of clusters leads to low statistical power. This is not of importance for a baseline study (which does not yet produce econometric results used, e.g., for impact assessment, where statistical significance and statistical power calculations are of crucial importance), but since any future mid-term and final evaluation will have to respect the same sampling framework used in the baseline study, this assessment sampling framework must ensure that all required properties for future project evaluations have been considered. A sampling framework of 26 clusters, with an expected 30 farmers each, provided a good fit when trying to balance between different factors, including resource limitations. Finally, on average, 32 farmers were interviewed per cluster. Table 1 displays the 26 municipalities where the survey was conducted.

[5] Applying the equation for sample estimation we get:
((1.96*1.96)*0.5*(1-0.5)*44898)/(44898*(0.035*0.035)+(1.96*1.96)*0.5*(1-0.5)) = 777

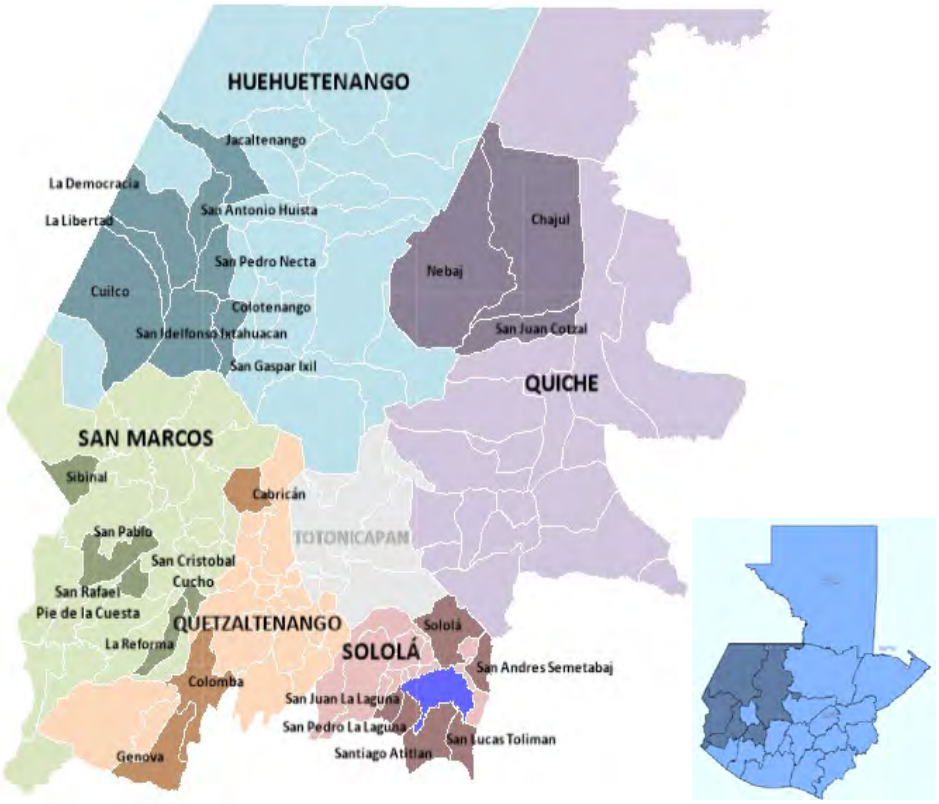
Table 1. Municipalities where the survey was conducted

HUEHUETENANGO	QUETZALTENANGO	QUICHÉ	SAN MARCOS	SOLOLÁ
Colotenango	Cabricán*	Chajul	La Reforma	San Andres Semetabaj*
Cuilco	Colomba	Nebaj	San Cristobal Cucho	San Juan La Laguna
Jacaltenango	Genova	San Juan Cotzal*	San Pablo	San Lucas Tolimán
La Democracia			San Rafael Pie de la Cuesta	San Pedro La Laguna
La Libertad			Sibinal*	Santiago Atitlán
San Antonio Huista				Sololá*
San Ildefonso Ixtahuacan				
San Gaspar Ixchill*				
San Pedro Necta				

* = Municipalities where farmers were invited to take part of the survey by MAGA. In the rest of the cases, invitations were made by ANACAFE.

For more information about the distribution of the sample, please refer to Annex 2 “Full description of baseline study methods”

Map 1. Selected departments for baseline study in Guatemala



2.2 QUALITATIVE METHODOLOGY: INTERVIEWS AND FOCUS GROUP DISCUSSIONS

Besides the survey, qualitative data (focus groups and in-depth interviews) was obtained with the purpose of contextualizing survey results. A total of 22 interviews were conducted with staff members and technical personnel of ANACAFE, Counterpart, FAUSAC, FEDECOCAGUA, MAGA, and MICOOPE, as well as 8 focus group discussions with coffee and horticulture small farmers. Ten municipalities of the 75 Preliminary Project Intervention Municipalities defined in the Terms of Reference (see Annex A1) were visited, 8 of which were also part of the 26 municipalities where the survey was conducted[6]. At first, 10 municipalities were randomly selected. However, some modifications where later made to the list due to logistical problems (poor accessibility certain partners' unavailability during specific dates where support was needed, due to an overlap with other activities, such as 'The day of the coffee grower' in the case of ANACAFE and a census that MAGA was conducting in all the country). The final list of municipalities visited for qualitative data collection is shown in Table 2.

Table 2: Municipalities visited for qualitative data collection

HUEHUETENANGO	SAN MARCOS	QUETZALTENANGO
Jacaltenango	San Rafael Pie de la Cuesta	Colomba
La Democracia	San Pablo	Genova
La Libertad		
San Pedro Necta		
Todos Santos Cuchumatan		
Unión Cantinil		

03/ THE AGRICULTURAL SECTOR AND THE ECONOMIC SITUATION IN THE TARGETED DEPARTMENTS

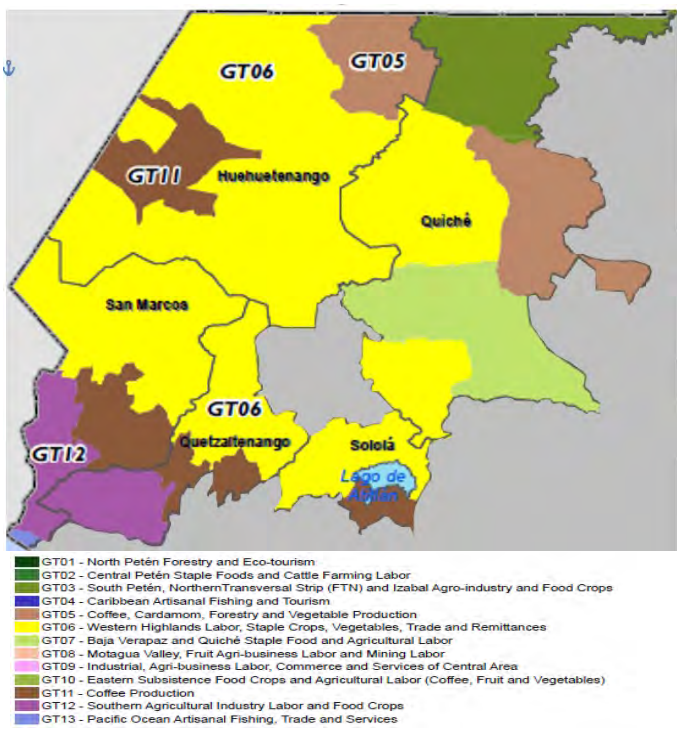
FFPr 2016 project will be developed in five departments of the Western Highland region of Guatemala. According to the Famine Early Warning Systems Network (FEWSNET) livelihoods study carried out in 2016, the rural population of a large part of the municipalities that make up the Western Highland region have their main economic activities, sources of income and food related to wage labor, staple crops, vegetables, trade and remittances. In a homogeneous way, this area receives the Zone 06 category, as can be seen in the Map 1 (yellow area). The "Western Highlands, labor, staple crops, vegetables, trade and remittances" livelihood zone occupies most of the west of the country, including the departments of Totonicapán, Sololá, and Huehuetenango, the northern half of San Marcos, Quetzaltenango and Chimaltenango, as well as the western half of Quiché, all located within the Guatemalan highlands (the Altiplano). Most of this territory lies at 1000 meters

[6] During the inception phase, it had been agreed upon with Counterpart that at least eight districts should be visited for qualitative data collection; consequently, the minimum requirement has been over-accomplished.

above sea level (masl) and over, and consists of a mixture of highland plains and escarped mountains and volcanoes. The basis of the local economy is a mix of agriculture, internal and cross-border trade and remittances. Although the zone is not amenable to large tracts of intensive agriculture, agriculture dominates the local customs.

Households produce maize and beans for own consumption and vegetables, and potatoes, fruits and even coffee for sale. This zone is, in fact, the main production area for vegetables and potatoes in the country. The mountainous terrain offers ideal conditions for potato growing. Vegetable production is most prominent in the south of the zone. Migration to coffee and sugar cane production areas (zones GT11 and GT12) is also common, where harvests are performed by hand and demand for labor is high. The proximity to Mexico provides the supplies and the demand for a vibrant cross-border trade economy. Remittances form the third pillar of the economy; it is mainly the young who migrate and the most common destinations are the US and Mexico. Low education levels mean most migrants search for opportunities in low-skilled sectors (domestic services, construction, transport and other manual work).

Map 2. Families' livelihoods in Guatemala Western Highlands



The most important markets supplying the livelihood zone are the markets located in the capital town of each municipality. Formal cross-border trade with Mexico takes place at the two main border markets of La Democracia and La Mesilla, both in Huehuetenango. Nonetheless, smuggling is very common and there are several points throughout the border where there are no controls

Overall, market access within the zone is limited due to poor infrastructure, dominated by gravel roads in poor condition, and the mountainous terrain, which impedes travel and transport in general and especially during the wet season when landslides are common. The poorest communities are always located far from urban centers, where road access is worse. Their remote location translates into poor market integration and fewer or less advantageous opportunities for local farmers to sell their produce, and also higher costs for all consumer goods arriving in the area. Vegetables are mostly sold to intermediaries who transport the produce to the main markets in the department or directly to the collection center outside Guatemala City (CENMA – Central de Mayoreo). From there, vegetables are also exported to El Salvador. However, in some cases, Salvadorian businessmen also buy vegetables in San Marcos and Sololá and send them directly to El Salvador.

Local production of maize and beans is mainly reserved for household consumption. In fact, the local varieties of maize and beans are most appreciated by the local population and production levels are

not high enough to warrant export to other areas. From February onwards, most households' own stocks are empty and families must resort to purchasing maize at the local markets.

Coffee production is very important in the rural areas of the five departments where FFPr 2016 is going to be implemented, particularly in Huehuetenango. According to the last agricultural census conducted in 2003, there were 171,334 coffee farmers in the whole country, 33,330 in Huehuetenango, 2,870 in Quetzaltenango, 6,468 in Quiché, 15,165 in San Marcos and 13,392 in Sololá (a total of 71,225 farmers in the FFPr 2016 intervention area, which make up 41.57% of the coffee growers of the country). Currently, ANACAFE informs that in Huehuetenango there are 16,222 coffee farmers, in Quetzaltenango 2,558, in Quiché 2.553, in San Marcos 12.439 and in Sololá 11,126 (comprising a total of 44,898 coffee farmers in the five departments). However, the number of families obtaining income from coffee farming, harvesting and related activities is even higher (the MAGA's Contingency Plan for the Control of the Coffee Rust estimates that, per coffee grower, there are approximately 5 families depending on coffee production).

There are two, distinct, geographic areas of coffee farming in the five departments (see "coffee production" livelihood zone (GT11)). The first is located in the south of Guatemala and covers a thin strip of volcanic and mountainous terrain (1300 to 2000 masl) stretching from the Mexican border to the border with El Salvador. This area has rich, fertile soils and includes the key coffee-growing areas located by lake Atitlán (Sololá), as well as small transversal sections of the departments of San Marcos and Quetzaltenango, and others located outside the project intervention area. The second area is located in the highlands of Huehuetenango, which have peaks of up to 2000 masl. Here the atmosphere is dry and arid meaning that the soil is protected from frost.

Although coffee production is the main feature of this area, its importance as a source of income has been greatly reduced in recent years, due to the number of crises that have affected this sector (coffee rust and low prices) and especially small and medium-scale growers. As a result, coffee growers have started to grow fruit inside their coffee plantations, they sell the wood products that result from clearing plantations and pruning, in an effort to exploit the options that their farmland can offer. The zone now produces grains, vegetables, citrus and rubber alongside coffee, which continues to dominate the zone's produce. Most of the population is involved in agricultural activities, particularly related to coffee. Since coffee can be harvested at different times, depending on the altitude (harvesting period for the FFPr 2016 intervention area is mostly between December and April), this zone sees a lot of internal migration. There is also a high degree of immigration into zone GT11 from other zones within Guatemala. Additionally, households produce rain fed staple crops and since the need for diversification has become more acute they have started to grow citrus fruits, avocados, bananas and other rain fed crops.

There are various threats that affect the zone ranging from international market prices to local weather disruptions. All threats have a direct and heavy impact on the poorest groups who make up close to 80% of the zone's population. The infrastructure is lacking maintenance and the local population often lacks the educational foundation to improve their circumstances, since they are permanently engaged in unskilled manual labor.
This zone has, overall, good market access with asphalt and dirt track roads, as well as the required modes of transportation to supply the various destinations and support the coffee sector. In some areas (particularly where the terrain becomes rugged) the market access has worsened due to lack of maintenance. Pack animals are being used to carry produce from the farms to the main roads.

The main markets within the area are those of Mazatenango, Escuintla and Coatepeque, in the area of bocacosta, and those of Todos Santos and La Democracia, in Huehuetenango.
Maize is grown along with beans mainly by poor households, who reserve them exclusively for consumption. Poor and middle-income groups produce both to cover their food needs and for sale. Very poor households only produce sufficient maize to cover family consumption.
There are three different routes for the sale of coffee:

i) Suitable for small-scale and medium-sized producers[7] (the most numerous), the route starts at the producer, coffee beans are sold to an intermediary or middleman who sells them at the main collection centers (Coatepeque, Antigua Guatemala, Amatitlán) where it is processed and classified and dried under the sun or in mechanical driers. From here they are sold to the export agent and the broker and ultimately to the final client.
ii) Large producers sell their produce unshelled (café oro) directly to brokers and on to the final client
iii) Cooperatives and coffee-growers' associations sell preachment coffee by the weight or unshelled beans already packed for direct sale to the brokers.
Coffee beans are transported by pick-up truck and larger trucks from the plantations to the collection centers and to the seaports (Quetzal Port for export towards Asia and the US Pacific coast; and Puerto Barrios for export to Europe and the US Eastern coast). Prices are fixed in advance, according to the global futures contracts market, traded mostly in the New York Mercantile Exchange.
The poor and middle groups receive remittances year-round, and especially for the holidays at the end of the year, the Independence Day celebrations (September 15) and the beginning of the year, when school related expenses increase. Increasingly, youth and even children as young as 7 to 9 years old are migrating.

04/ RESULTS AND BASELINE DATA

FFPr 2016 has two main objectives, which are expected to be achieved through the implementation of seven different activities, with the support of multiple partners, including: ANACAFE, FAUSAC, FEDECOCAGUA, MAGA, MICOOPE, and University of California, Davis (UC Davis). In this section, two different types of information will be presented: qualitative findings (which will be useful for contextualizing results and making decisions regarding the implementation of the project), as well as quantitative data for the 19 indicators mentioned in Annex 1 "Terms of Reference". These results will be presented by organizing them within each of the 7 activities implemented by the FFPr 2016, with the aim of maximizing their practical usefulness. Indicators usually relate to no one, but multiple activities. However, in order to present the results in a more organized way, each of the 19 indicators will be addressed in the context of the description of one activity. In section 5 "Key conclusions and recommendations" the complete list of FFPr 2016 project's 39 indicators will be commented and reflected upon. Table 3 lists the seven FFPr 2016 activities and shows which indicator will be addressed in each.

7 According to ANACAFE's current classification, small coffee growers produce, per year, up to 200 quintals of coffee (9 tons), medium-sized producers between 201 and 1,600 quintals (between 9.04 and to 144 tons), and large producers more than 1,600 quintals (144 tons)

Table 3: Relationships between FFPr 2016 activities and indicators' results

Activity number	Activity	Indicator number
1	Capacity building: Government institutions (MAGA)	26
2	Capacity building: Agricultural extension agents and services (Certification Program).	29, 31
3	Capacity building: Producer groups and cooperatives	6, 7, 24, 25, 28, 30
4	Cash and in-kind grants: Inputs, equipment, post-harvest infrastructure	16, 17, 36
5	Training: improved agricultural production techniques and farm management	12, 13, 14, 15, 23, 27, 30, 37
6	Financial services: Facilitate agricultural lending	18, 19, 20
7	Market access: Enhance producer marketability	1, 2, 33, 34, 35, 38, 39
---	Community context	3, 4, 5, 8, 9, 10, 11, 32

Furthermore, in the case of activities with no direct connection to the indicators listed, only qualitative results will be presented. Inversely, indicators with no direct connection to activities will presented under the subtitle 'Community Context'.

4.1 FFPR 2016 ACTIVITIES AND BASELINE RESULTS

4.1.1 FFPr Activity 1. Capacity building: Government institutions (MAGA)

Interviewees have stressed that, despite being the head and the core of the SNER, for a number of reasons, MAGA is a relatively weak institution. Some of the reasons for this are: that there is (a) scarce coordination among its internal units and with other rural extension/research institutions such as FAUSAC, Institute of Science and Technology (ICTA), ANACAFE and FEDECOCAGUA; (b) a preponderance of a political rationale over technical considerations; (c) high rotation of staff, delay in the payment of salaries, and a practice of hiring extension agents who do not fulfill the position's requirements (as a result of political corruption); (d) lack of a (consistent) monitoring and evaluation system; and (e) lack of agricultural inputs, vehicles and fuel to conduct training sessions or provide technical assistance in the field.

In this context, making contributions to building the MAGA's capacity to provide high quality rural extension services, and to managing the SNER, seem to be very valuable strategies. Considering that international donor agencies such as FAO and the European Commission are implementing actions in the country to contribute to the strengthening of the MAGA, it seems advisable that Counterpart coordinate the implementation of Activity 1 along with them. Finally, when designing the strategy used to strengthen the MAGA, it is essential to take into account the potential and the importance of rural extension personnel who have 'Renglón 011' contracts, which means they are MAGA permanent staff (those not subject to rotation or unjustified dismissal). Mid-level extension authorities are usually permanent MAGA staff and can become valuable allies in the process of institution building.

4.1.2 FFPr Activity 2. Capacity building: Agricultural extension agents and services (Certification Program)

FAUSAC and UC Davis are key partners within the context of this activity. They are both strong institutions and have the experience of having worked with each other and with Counterpart in the past (FFPr 2012). Moreover, FAUSAC's authorities highlighted that UC Davis professors have experience in Latin America which, from their point of view, makes it easier to coordinate and work with them.

In their Work Plan, Counterpart proposed "transitioning full responsibility of the Certification Program to USAC by the end of the project." FAUSAC informed us that the first steps have been implemented in order to move in that direction (namely, the Certification Program for extensionists was approved by the USAC as an Official Program). However, despite being feasible, it is also important to note that transitioning full responsibility to the USAC will probably create funding problems because, as of now, there is no consensus on whom will assume the cost for the program.

Finally, FFPr 2016 Work Plan also proposes to support the strengthening of the Guatemala Agricultural Middle Training Schools (EFA) and the National Central School of Agriculture (ENCA) curricula, with the support of FAUSAC. FAUSAC's dean pointed out that EFA and ENCA's authorities share this objective and are committed to taking part in the process, which is fundamental for reaching the expected results.

4.1.2 FFPr Activity 3. Capacity building: Producers groups and cooperatives, & FFPr Activity 4. Cash and in-kind grants: Inputs, equipment, post-harvest infrastructure

Counterpart will implement activities 3 and 4 directly, as it did in the previous project (FFPr 2012). Based on Counterpart's previous experience as well as on MAGA interviewees' recommendations, it seems advisable to coordinate with other partners (such as ANACAFE, FEDECOCAGUA, and MAGA) during the implementation phase, in order to assure that these partners provide follow-up support to beneficiaries. National and international experience show that follow-up support for a project, once it has finished, is key for consolidating changes and improvements.

With regards to specific indicators, FFPr Activity 4 "Cash and in-kind grants: Inputs, equipment, post-harvest infrastructure" (along with Activity 6 "Facilitate agricultural lending" and Activity 7 "Market access: Enhance producer marketability") will all contribute to fulfilling Indicator 37 "Total increase in installed storage capacity (dry or cold storage) as a result of USDA assistance" (questions 151 to 154)[8]. In this line, survey results show that 48.1% of farmers store at least a portion of their produce. Most farmers who store their produce do so in their own house (46.9%), followed by those who store it in their own storage facilities (usually small and made of regular construction materials) warehouses (in Spanish 'bodegas') (33%), then by those who store in silos (27.7%) as is the case of corn and kidney bean storage, and, finally, those who use their cooperative's storage facility (10.3%). Cold storage is almost inexistent, because of its high cost and because coffee does not need to be stored in cold temperatures. Additionally, in most of cases, storage capacity remained the same during the last year (in 1.3% of cases it increased and in 4% it diminished).

[8] Indicator 37 assesses the increase in the installed storage capacity, but not the volume of the storage capacity itself. When designing the questionnaire it become apparent that farmers could not provide an accurate estimation of their storage capacity, so questions were aimed at quantifying the use of storage, types of storages, and perception of the increase or decrease of their capacity.

Storage capacity is important because it allows farmers to conserve their produce (if done properly) for consumption (in the case of corn and kidney beans), or to wait for better market prices. Interviews suggest that postharvest losses are high, sometimes reaching even half of the storage volume, as is the case of basic grains. This problem could be easily addressed through the proper use of silos.

4.1.4 FFPr Activity 5. Training: improved agricultural production techniques and farm management

Description of FFPr 2016 partners and the problems faced when defining its beneficiaries

Activity 5 will be implemented jointly with ANACAFE and FEDECOCAGUA. Both entities support coffee farmers on technical, organizational, financial and commercial levels. ANACAFE is a private association which is publicly funded by a specific tax applied to the exportation of coffee, that aims at promoting coffee production in Guatemala. It provides support to coffee farmers, aiming to transform a subsistence-oriented production system into a market-oriented one, as they consider the latter to be the best option in order to increase the smallholder farmer's income and reduce rural poverty. However, ANACAFE does not market coffee.

FEDECOCAGUA is a federation of coffee cooperatives that supports their own organizations, and engages directly in the commercialization and exportation of coffee (there are approximately 125,000 coffee producers in the country and about 20% of them, are members of one of the more than 80 coffee cooperatives that partake in FEDECOCAGUA). It has its own financial institution (Bank of Rural Development of Guatemala [BANRURAL]) and provides technical assistance to their members with greater frequency than ANACAFE does. Finally, members of FEDECOCAGUA are expected to sell their coffee only to the Federation, which deducts its operational costs from the value of the sale, indirectly including a fee for the technical assistance received.

With regards to the criteria for the selection of those smallholders who will partake in FFPr 2016, USDA established that those who received benefits from the US government (USDA and USAID) could not be beneficiaries of FFPr 2016. The PCVR was recently funded by USAID in Guatemala. It was implemented in the Departments of Huehuetenango and San Marcos by ANACAFE and FEDECOCAGUA. All cooperatives of FEDACOCAGUA, based in both departments, received support from PCVR, which implies that FEDECOCAGUA will not be able to invite new organizations to take part in the project in this area. FEDACOCAGUA argued that all their cooperatives in both departments had received support but that direct benefits did not reach all their individual members. Here, Counterpart and USDA will have to agree upon the definition of 'beneficiary' they are going to use. In contrast, ANACAFE highlighted that they have many coffee farmers and coffee organizations that did not receive PCVR in both departments. With regards to the departments of Quetzaltenango, Quiche, and Sololá, no potential overlapping of beneficiary problems were identified during qualitative fieldwork.

Training, technical assistance and access to information

Access to technical assistance and market information is an essential need for farmers and for the associations and cooperatives within which they partake. Qualitative fieldwork has demonstrated both the importance of the technical assistance provided to smallholders in the area, as well as the

precarious conditions and limitations with which rural extensionists often carry out their work.

With regards to the provision of technical assistance, the ratio between technical advisors/rural extensionists and number of farmers seems to be very low, particularly in the case of ANACAFE (which is expected to support all coffee farmers in the country, approximately 125.000), but it is also the case for FEDECOCAGUA (whose clients are only those cooperatives and farmers that belong to the Federation, although to a lesser degree). The situation of MAGA is somewhat different, because it has many more practitioners but, as explained before, has no resources allocated for field work. For instance, ANACAFE has only 13 technical advisors in Quiche and Huehuetenango that are meant to support all coffee farmers working in both departments. In order to reach as many farmers, associations and coffee cooperatives as possible, rural extensionists provide technical assistance and training to groups of farmers or associations/cooperatives rather than to individuals. Given that the ratio between rural extensionists and farmers is low, it is advisable that assisted associations and cooperatives have their own technical support (for instance paraprofessional technicians) in order to complement ANACAFE/FEDECOCAGUAs' support and build synergies. In the same vein, it is also important to note that scarce access to technical support is even more pressing in the case of those organizations wanting to obtain coffee certifications, because of the specific requirements they have to meet in order to obtain the certifications.

Additionally, qualitative fieldwork showed that rural extensionists and technical advisors should offer support not only in relation to production and marketing aspects, but also on credit management (i.e. on the credit lines to be implemented under FFPr 2016). This will require that ANACAFE and FEDECOCAGUA rural extensionists receive training specifically on financial matters in order to complement training and technical assistance, on the one hand, and credit management, on the other hand (Activity 6 of FFPr 2016). In the same line, with the aim of synergizing training and credit efforts, a good and fluid coordination between technical institutions (ANACAFE, FEDECOCAGUA, and MAGA) and credit providers (MICOOPE) will be essential for the success of FFPr 2016.
In conjunction with training and technical assistance, strengthening coffee associations and cooperatives at an organizational level is also needed if they are to produce and profitably sell coffee. This will also require that cooperative managers develop, at least, basic entrepreneurial and management skills (i.e. on identification of market opportunities and on direct bargaining with buyers).

Finally, the importance of radio and cellular phones in the communities has to be highlighted, since both means of communication are valuable instruments for the delivery of technical information and advice to target groups of farmers.

Analysis of indicators related to agricultural production and farm management

As required, the consulting team gathered baseline, quantitative information on 7 indicators (number 12, 13, 14, 15, 23, 27, and 30) related to the area of agricultural production and farm management. These results are presented below.

Indicator 12: "Percentage of smallholder farmers who make production plans and/or investments to sustain and improve the quality of land and water resources" (questions 109 to 122). The following figures shows the percentage of farmers that implemented, over the last 12 months, different practices that allow for sustaining and/or improving soil quality (Figure 1), and increasing the

availability and/or improving the use of water (Figure 2)

Figure 1. Farmers applying technologies for sustaining and/or improving soil quality

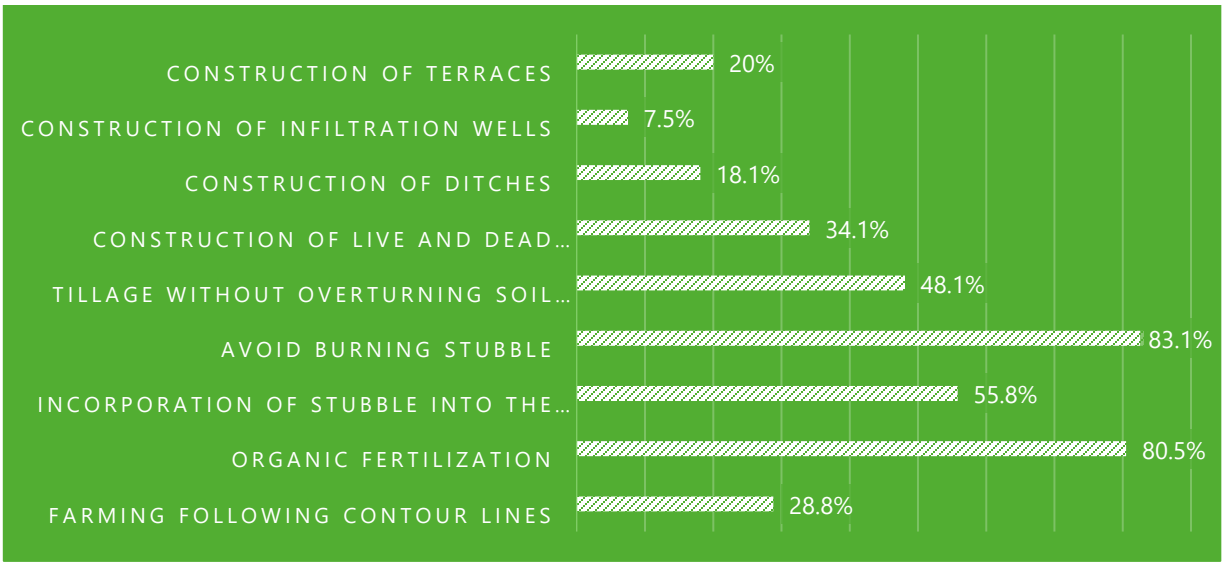
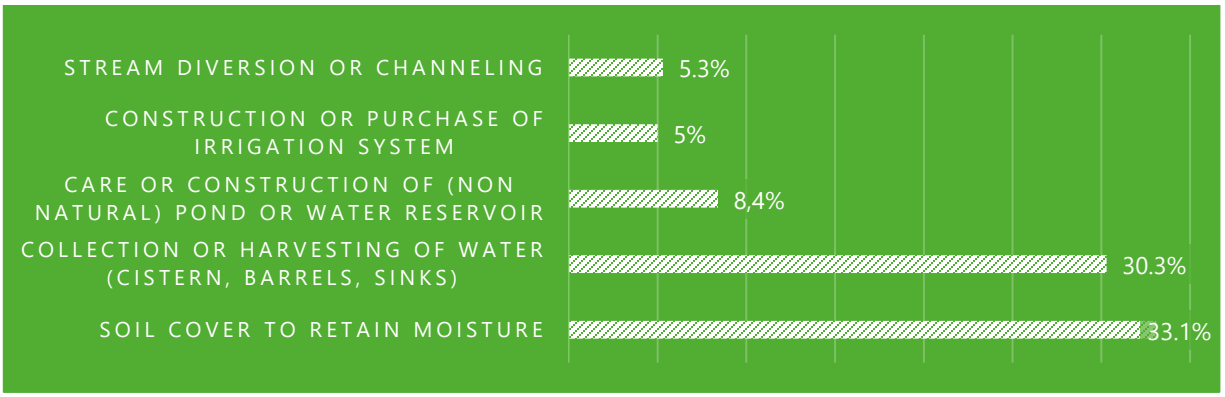


Figure 2. Farmers applying technologies for increasing the availability and/or improving the use of water



Results show three different types of practices. First, there are those productive technologies and techniques that maintain or increase soil quality and water availability that were practiced frequently over the last 12 months. Examples of these are organic fertilization and avoiding the burning of stubble. Secondly are the practices, such as the construction of terraces or irrigation systems, that were more infrequent, due to the fact that they are investment activities or, in other words, practices that are one time investments and are not implemented on a year to year basis (such is the case of organic fertilization). And finally, results also show that there is a third category of important practices that are carried out infrequently that, however, could be carried out on a regular basis, such as farming following contour lines ('curvas de nivel'), harvesting of water, and even incorporation of stubble into the soil.

Indicator 13: "Number of hectares under improved techniques or technologies as a result of USDA assistance [FFPr Standard #1]" (question 107), and *Indicator 14: "Number of individuals who have applied new techniques or technologies as result of USDA assistance [FFPr Standard #2]"* (questions 89 to 106, and 108 to 122). Both indicators refer to the use of improved techniques or technologies during the production phase, number 14 refers to those carried out by individual farmers, and number 13 refers to the area farmed using such technologies. Technologies mentioned under Indicator 12 also are 'improved techniques or technologies', but in order to avoid repetition, they are not going to be described again. In what follows, Table 4 shows the percentage of smallholders who use key, improved technologies and practices for farming (the list of technologies was composed after meetings with ANACAFE and MAGA technicians), while Table 5 shows technologies that apply only to coffee production.

Table 4. Use of improved technologies for farming

(N=862)	%	N (826)
New breeding animal or with improved genetics	3.1	26
Incorporation of new varieties or seeds	28.5	235
Seed selection (traditional varieties)	32.8	271
Vaccination, including small livestock	23.1	191
Deworming	14.2	117
Use of insecticides*	61	504
Precautionary measures when using agrochemicals	28.6	236
Have or use of irrigation systems*	4.8	40
Use of ICTs for accessing climate, crop or market information	4.1	34

Table 5. Use of improved technologies for coffee

USE OF IMPROVED TECHNOLOGY FOR COFFEE (N=635)	%	N (635)
Use of seedbeds ('almácigos')	40.5	257
Farming improved coffee varieties (e.g. better resistance against rust) *	35.1	223
Pruning*	90.4	574
Shade management*	93.5	594
Soil analysis	26	165
Own coffee drying facilities ('patios de secado')	25	159
Own coffee washing facilities ('correteos')	15.4	98
Use of fermentation pile ('pila de fermentación')	16.5	105
Treatment of coffee waste water ('aguas mieles')	12.3	78

Some technologies correlate with the particular terrain to which they are applied (which is the case of improved coffee varieties, for example), while for others it does not make sense to state whether or not they correlate with the area or terrain to which they are applied (which is the case of the use of fermentation pile, for example). Thus, farmers were asked about the terrain to which they applied technologies of the first kind mentioned above. Results are shown in Table 6

Table 6. Hectares under improved farming techniques or technologies

	N	Minimum	Maximum	Media	Total
FOR FARMING					
Hectares with insecticides	503	0	7	.0.54	271.62
Hectares with irrigation	39	0	1	0.15	5.85
EXCLUSIVELY FOR COFFE					
Hectares with improved varieties	217	0	66	0.64	138.88
Hectares with coffee pruning	570	0	7	0.56	319.2
Hectares with shade management	590	0	7	0.57	336.3
TOTAL	826	---	---	1.30	1,071.85

Results show that there is a wide margin for improving technologies, particularly in the case of coffee production, post-harvest, and wet coffee processing. These improvements include: the use of seedbeds, improved varieties, fertilization based on soil analysis, use of pesticides (particularly for integrated pest management), use of drying and washing facilities, fermentation pile and treatment of coffee waste water.

During qualitative fieldwork, it was observed that the impact that rust has on coffee greatly affects productivity. This problem reflects others ones such as, lack of proper fertilization, aging of plantations, and the effect of climate change, which leads to the emergence of new plagues (e.g. rust) for which farmers have no knowledge of how to address.

Indicator 30: "Number of private enterprises, producers' organizations, water users' associations, women's groups, trade and business associations, and community-based organizations (CBOs) that applied improved techniques and technologies as result of USDA assistance [FFPr Standard #7]" ((question 9, 89 to 106, and 108 to 122). Survey results show that smallholders in general and coffee farmers in particular partake in organizations, in some cases, in more than one. In general terms, the farmers who made up the sample belong to CADERs (21.5%), associations or cooperatives (34.2%), and GATs (41.3%), among other types of organizations. In the case of horticulture farmers, almost all of them belong to CADERs, while coffee farmers are mostly members of associations, cooperatives or Groups Friendship and Work[9] (GATs are their initials in Spanish) (only a few of them belong to CADERs). However, this distribution cannot be generalized for all of the smallholders of the 5 departments wherein FFPr 2016 is going to work, because survey participants were invited through ANACAFE's organizations and MAGA's CADERs, which could have caused a bias in the sample, in terms of the organizations in which they partake.
In tables 7 and 8 the percentage of farmers who apply specific, improved technologies -differentiated per type of organization- are presented. Results show that the use of improved technologies varies enormously among farmers who are members of different types of organizations. For instance, CADER members apply practices such as seed selection and vaccination

[9] The GATs are groups of coffee growers supported by ANACAFE which have no legal status as associations and cooperatives do. They can be considered proto-associations or proto-cooperatives, because ANACAFE aims to strengthen GATs in order for them to become associations or cooperatives.

much more frequently than associations or cooperatives' members (43.6% against 23.9% with regards to seed selection, and 35.4% against 18.4% with regards to vaccination). And, conversely, associations and cooperatives' members use ICTs to look for information more frequently than CADERs' members do (7.7% against only 2.1%).

Table 7. Use of improved technologies for farming in different types of organizations, in %

	CADER (n=195)	GATs (n = 374)	Association or cooperative (n= 310)
New breeding animal or with improved genetics	6.67%	1.60%	2.58%
Incorporation of new varieties or seeds	23.08%	29.41%	31.61%
Seed selection (traditional varieties)	43.59%	34.49%	23.87%
Vaccination, including small livestock	35.38%	21.39%	18.39%
Deworming	23.59%	12.83%	11.61%
Use of insecticides	54.87%	64.97%	62.58%
Precautionary measures when using agrochemicals	25.64%	27.27%	34.52%
Have or use of irrigation systems	9.74%	4.55%	2.90%
Use of ICTs for accessing information	2.05%	1.87%	7.74%

Table 8. Use of improved technologies for coffee in different types of organizations, in %

	CADER (n= 30)	GATs (n =370)	Association or cooperative (n= 277)
Use of seedbeds ('almácigos')	46.67%	44.05%	34.66%
Have improved coffee varieties	13.33%	35.14%	39.71%
Pruning	90.00%	92.97%	88.09%
Shade management	93.33%	94.32%	93.14%
Soil analysis	40.00%	21.89%	33.21%
Own coffee drying facilities ('patios de secado')	20.00%	24.59%	27.08%
Own coffee washing facilities ('correteos')	16.67%	11.62%	19.86%
Use of fermentation pile ('pila de fermentación')	16.67%	14.32%	18.41%
Treatment of coffee waste water ('aguas mieles')	13.33%	11.89%	13.72%

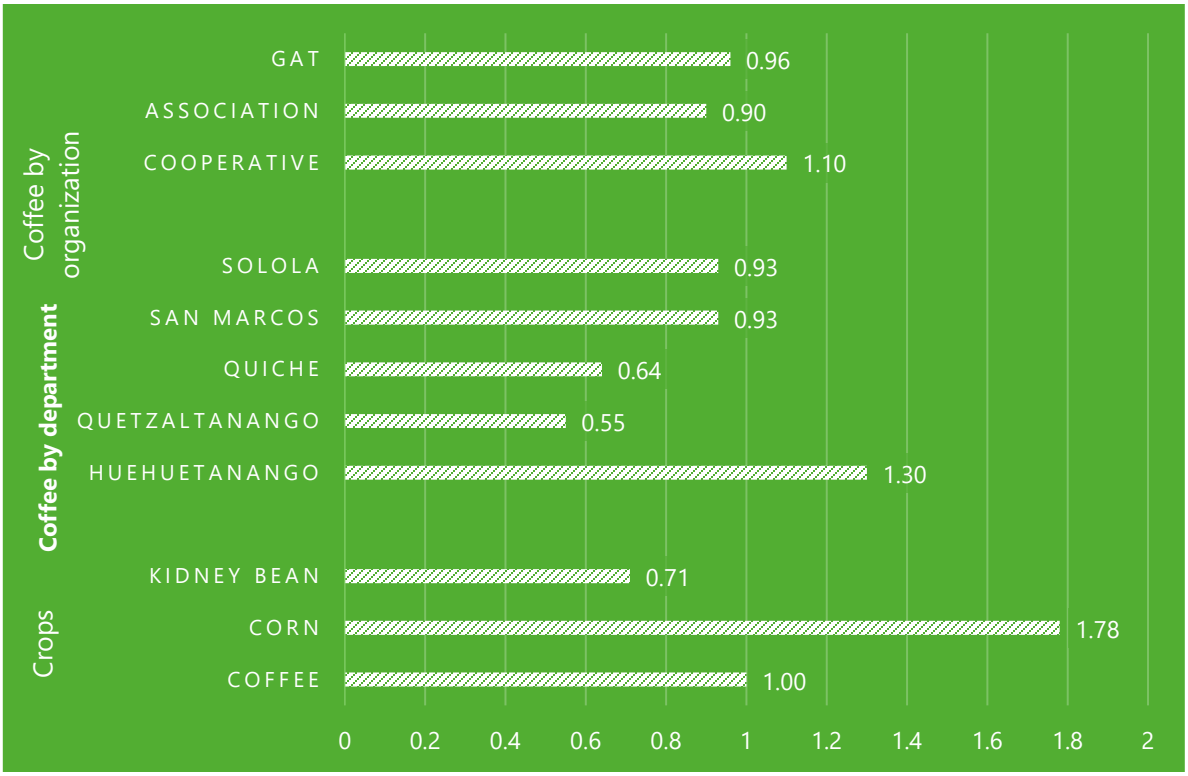
Despite the usefulness of this data, providing a closed or final baseline figure (or figures) for this indicator seems difficult and even misleading, considering that survey results provided information about farmers' practices but not about those of their organizations. In fact, qualitative fieldwork suggests that, in almost all the cases, referring to associations' or cooperatives' improved productive practices is meaningless (with the only exceptions of cooperatives that enforce specific productive practices as a result of coffee certifications). This is because it is the farmers who produce and can

thus have "improved productive practices," and not the cooperatives. In this line, it would seem advisable to remove this indicator from the FFPr 2016 indicators list.

Indicator 15: "Increased average agricultural yield per hectare (main crops)" (questions 50 to 52). Yield was studied for the three main crops: coffee, corn and kidney beans. It is important to note that farmers were not asked about their yield. Instead, figures were constructed by dividing a unit of weight (quintals or metric tons) per one of surface ('cuerdas' or hectares), which is much easier to quantify. Mean yield of coffee (in parchment coffee) is 1.05 (quintals per cuerda) or 1.00 (tons per hectare). This information was corroborated because some farmers informed sales of cherry coffee (with pulp) and others of parchment coffee (without it), and they each have a different weight. There was a risk of having mixed both types of coffee when calculating yield. However, figures checked out (yield of farmers selling in cherry was the same as of those selling in parchment). Another significant result was that coffee yield was different depending on the department where it was grown, as well as depending on the farmer's membership to different types of organizations. This implies that yield is not a general figure and depends on the territorial and institutional context. Thus, when implementing FFPr 2016, Counterpart and its partners, should keep these differences in mind when making decisions regarding training contents and allocation of resources.

With regards to corn, mean yield is 1.78, and kidney beans 0.71. In the case of kidney beans some corrections had to be made, because some farmers informed yields of over 50 tons per hectare, when a reasonable maximum is 2. These results are presented in Figure 3.

Figure 3. Mean yield of different crops, in different departments and organizational contexts (in tons per hectare)



In general, these results show that yield tends to be low and can be increased if improved technologies (appropriate for the territorial and socioeconomic context) are implemented.

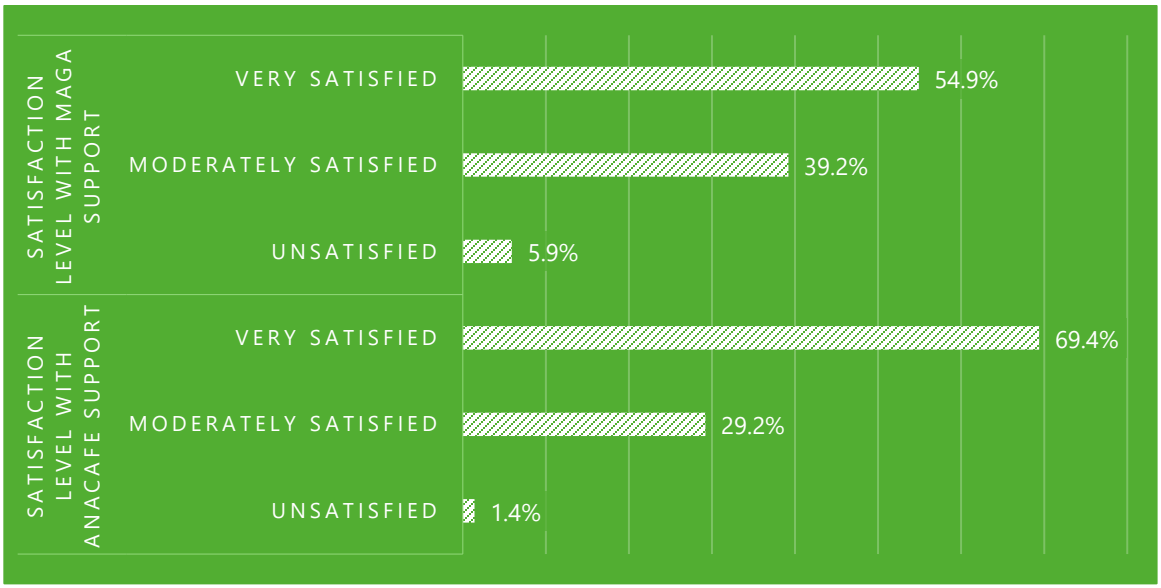
Indicator 23: "Number of individuals who have applied improved farm management practices (i.e. governance, administration, or financial management) as a result of USDA assistance [FFPr Disaggregation by gender and age Standard #3]" (questions 135a and 135b). Survey results show that smallholders scarcely use improved farm management practices. In fact, only 16.4% keep some annual written record of expenses and incomes, and only 36.4% look for technical advice, information on the internet, or listen to radio or television programs before making important decisions about their farm or practices. These results corroborate that extension services have limited territorial coverage and thus highlights the importance of the presence of rural extensionists and technical advisors with proper training to provide advice on farm management practices.

Indicator 27: Percentage of farmers who perceive that there is an increase in government's extension service provision (questions 136-140). Almost half of the farmers surveyed (48.1%) were visited by rural extension agents or a technical advisor over the last 12 months. Amongst them, 68.3% received a visit from ANACAFE, 25.7% from MAGA and 10.3% from other extension institutions. This distribution is not surprising, considering that the sample was gathered with the support of ANACAFE in 20 communities, and with that of MAGA in 6. This could suggest the existence of a certain bias in the results, which requires that these percentages be treated with caution.

With regards to the frequency of the visits, 39.2% of those who received technical assistance from MAGA argued that the quantity of visits was similar to previous years, 37.3% that they diminished, and 22.5% that they increased. In the case of ANACAFE, 47.6% said that quantity of visits was similar, 28.6% that they increased, and 22.7% that they diminished. In brief, it could be assumed that ANACAFE's support slightly increased during last year, while MAGA's diminished.

In the case of both institutions, with regards to the type of work undertaken in the communities, group trainings predominated, followed by individual technical assistance, and finally provision of agricultural inputs. In terms of levels of satisfaction, most farmers surveyed tended to be very satisfied with the services provided by both institutions: 69.2% of those who received assistance from ANACAFE and 54.9% of those who received it from the MAGA were very satisfied. However, despite the fact that most smallholders are highly satisfied with the technical assistance received, there is also an important percentage that is not (30.8% in the case of ANACAFE and 45.1% in that of the MAGA), which means that there is room for improvement. Level of satisfaction with rural extension services are presented in Figure 4.

Figure 4. Level of satisfaction with rural extension services



Reflections and recommendations on training processes and technology change

Survey results and qualitative fieldwork show that there is considerable room for improvement in terms of the use of technology in coffee cultivation, which brings to the forefront the importance of training smallholder farmers in order for FFPr 2016 to succeed. In the survey, when smallholder farmers were asked why they did not apply specific productive technologies, 55.1% answered that they did not know of their existence. This lack of knowledge of the existence of more suitable production techniques highlights the need for improving individual farmers and farmer organizations' access to technical information and technologies. Likewise, 33.2% of those farmers argued that they did know of said technologies but could not apply them due to different reasons, the most important being the lack of money or capital to invest (70.4% of those who replied that they were unable to apply them), and lack of technical advice (9.9%).

Up to this point, it is important to distinguish between 'training' and 'technical assistance,' since both concepts are related but different. Training is a one-time activity, while technical assistance is an informal educational process in which a technician periodically visits farmers. Taking into account FFPr 2016's objectives, it is important that the project, when implementing and/or supporting training activities, make use of field-level participatory training techniques such as field trips, visits to demonstration plots, and practical workshops, among others. To summarize, technical change and adoption of technologies requires training, access to credit (to finance investments and purchase of inputs) and technical assistance. In this context, technical assistance will be an essential factor for the project's success.

According to survey results and qualitative fieldwork, the following training topics seem to be strategic:

1. Coffee production, rejuvenation of coffee plantations, management of seedbeds, agroforestry, sustainable management of soil and water resources, and pest and disease preventive management.

2. Post-harvest and wet coffee processing, conditioning of coffee drying facilities, and treatment of coffee waste water
3. Environmental management, adequate use of pesticides, management of packages of agrochemicals, use of protective equipment during pesticide applications
4. How to manage farming as a business, use of records, and basic accounting.
5. Strengthening of farmer organizations and cooperatives
6. Marketing and use of marketing techniques for both farmers and farmer organizations.

4.1.5 FFPr Activity 6. Financial services: Facilitate agricultural lending

MICOOPE and access to credit in the context of coffee farming

Qualitative fieldwork revealed that the coffee value chain in Guatemala is very fragmented. Small coffee farmers are often linked with a small number of intermediaries who monopolize access to the distribution channels of their crops, which tends to erode profitability. In this context, the MICOOPE network can play a key role facilitating the access to proper credit lines for small coffee farmers. In this line, in conjunction with MICOOPE, FFPr 2016 will contribute to developing a new and specific financial product for coffee farmers, to the training of MICOOPEs' loan officer on financial analysis applied to agricultural production, and to the provision of credit to smallholders.

Importantly, as a financial institution, the MICOOPE credit and savings cooperative network has the advantage of being based on cooperative principles, which implies that borrowers are legal partners of their respective cooperative institutions, and thus contribute to the strengthening of their local savings and loans cooperatives. Likewise, the development of specific financial products for coffee cultivation, alternative to those currently existing for the agricultural sector in Guatemala, will also contribute to reducing interest rates in comparison to those prevailing in the commercial banking sector. These rates should be moderate enough to allow the farmer to obtain long term credit, in line with the natural cycle of this crop.

However, it is important to keep in mind that the MICOOPE network still plays an incipient role in the financing of agricultural production. MICOOPE's Department of Agriculture started operations five years ago. It decides what can be financed, for how long and for which amount, and in general terms, agricultural credits are not approved if production profit margin does not reach at least 20%. For the time being, MICOOPE has not yet developed a proper analysis of coffee production costs, but it is expected that this will happen in the future with the implementation of FFPr 2016. In fact, MICOOPE is currently working to develop improved models in order to analyze the costs of each agricultural product.

ANACAFÉ and FEDECOCAGUA work with other credit institutions besides MICOOPE, particularly with BANRURAL, which belongs to FEDECOCAGUA. According to a MICOOPE interviewee, there is no record of cooperation or coordinated work between MICOOPE and BANRURAL. In the same line, it is apparent that a proper and effective coordination between MICOOPE and other partners (particularly ANACAFE and FEDECOCAGUA) will contribute to generating synergies within FFPr 2016. In fact, MICOOPE's authorities have also deemed it feasible to design new tailored credit lines to finance equipment, constructions and coffee crops targeting smallholder farmers assisted by ANACAFE and FEDECOCAGUA, provided that they offer MICOOPE logistical information and provide technical assistance.

From a national perspective, MICOOPE's network could prove capable of serving coffee farmers' financial needs, despite the fact agriculture is clearly not one of their main areas of lending expertise, particularly because coffee growing is a long-term crop from the point of view of financing requirements. Currently, MICOOPE's agricultural lending portfolio mostly goes to financing farmers that already have mature coffee plots, because their financial needs are usually smaller, lending periods shorter and credit risk low, when compared to the investments required to put new plots into production.

Interestingly, MICOOPE's interviewees highlighted that MICOOPE should take advantage of the opportunities provided by FFPr 2016 to better differentiate between the purpose informed by the credit applicant and the source of repayment (which for instance could be coffee production), changing the focus from the first to the latter, because financial risk is clearly associated to crop outcome itself. In fact, many applicants for loans seek funding through personal loans, instead of applying for productive agricultural loans, even though the money to repay such lending comes from the harvests.

The production cost of a quintal of parchment coffee ('café pergamino') can vary depending on many factors, particularly yield. However, it can average around 475 quetzals (65.74 U$S[10]), which includes the payment of agricultural inputs and manpower. Considering that currently the price of 1 quintal of parchment coffee delivered in December and paid in April ranged last year from 700 to 900 quetzals (96.88 to 124.56 U$S), expected profits seem to surpass the lending threshold of 20% applied by MICOOPE.

An additional problem is that, in order to lend a credit for a period of 3 or 4 years (when coffee plants reach maturity, start producing beans and allow farmers to obtain a profit), MICOOPE requires them to acquire an insurance to cover both the plant and its fruit (the beans), and thus reduce the financial risk involved. However, nowadays, agricultural insurances in Guatemala only provide financial coverage for coffee plants, not for coffee beans. As part of the Inter-American Development Bank Project GU-M1059 "Competitiveness and Financing of Coffee Growing in Guatemala", ANACAFE, "Guatemala Invierte" (GUATENVIERTE, a public partial guarantee fund) and MICOOPE, are presently committed to the creation of coffee crop complementary guarantee mechanisms linked to the lending procedures (among other goals), but it is a work still in process. In this context, it becomes apparent that insurances and credit lines do not fit the specificities of coffee production nor those of coffee farmers.

Analysis of indicators related to credit Access

Indicator 18: "Number of individuals receiving financial services as a result of USDA assistance [FFPr Standard #4]. Disaggregation by gender and age" and Indicator 19: "Number of loans disbursed as a result of USDA assistance [FFPr Standard #5]". According to survey results, only 27.7% of farmers currently have a credit. Data analysis shows that access to credit is not statistically related to the farmers' age. In contrast, important differences were identified in terms of sex, given that 33.6% of male farmers currently have a credit, while only 20.6% of female farmers do. Of those farmers (female and male) that currently have a credit, 70.3% informed having had at least one previous one and 72.1% that they had no trouble in repaying the previously held loans, which also implies that 27.9% may have had some difficulties doing so.

[10] In this report the applied exchange rate is always 1 quetzal = 0.1384 U$S

Figure 5. Percentage of farmers having a credit

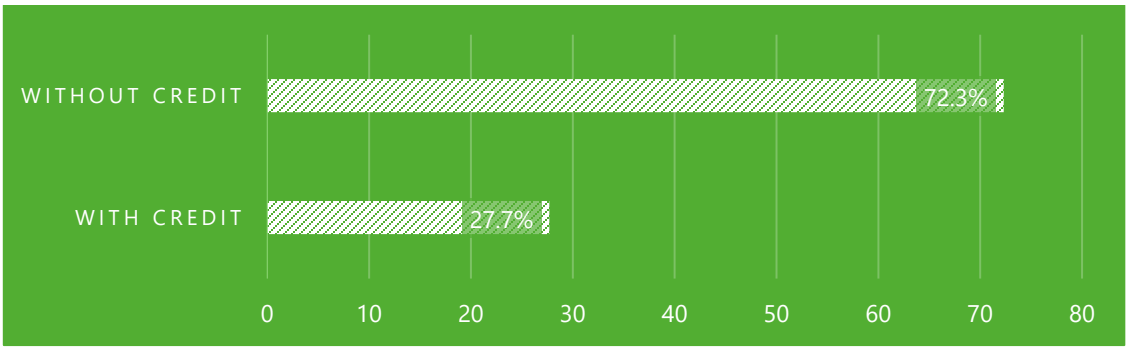
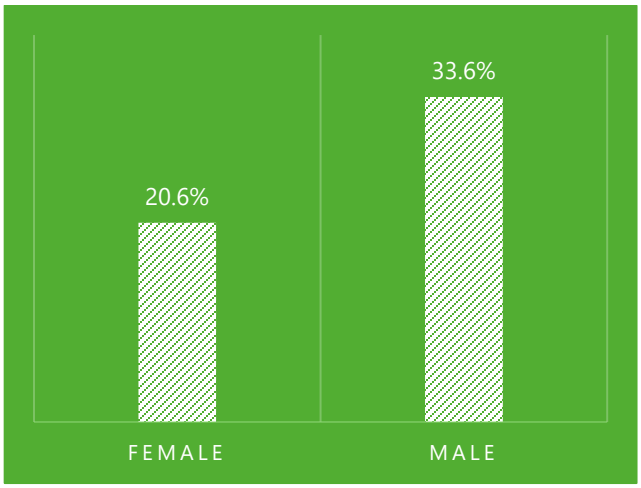


Figure 6. Percentage of farmers having a credit, by gender



With regards to the main sources of both current and previous loans, interviewees mention banks most frequently, while agricultural cooperatives are second. In the case of respondents who currently hold loans, banks account for a 34.5% of the credits granted, agricultural cooperatives for 17.7% and MICOOPE only 6.0% (14 respondents), results which show both the limited presence of MICOOPE in the context of agricultural credits as well as its potential to grow as a credit provider. Nonetheless, it is also important to mention that several interviewees pointed out that a very important limitation of MICOOPE is that it does not provide credit to associations or cooperatives (whereas banks such as BANRURAL do), but only to individual farmers. In many cases, agricultural associations and cooperatives themselves request the loans and then give the money to their members, in this way facilitating farmers' access to credits. However, at this time, MICOOPE does not consider giving loans to associations or cooperatives an option, because in the past this strategy has led to important problems related to the repayment of the debts.

The total number of loans disbursed was calculated by adding the number of credits each farmer has or has had. In Table 9, the procedure and the results are presented. These results imply that the average number of loans each farmer received is 0.76.

Table 9. Number of received loans

Number of loans	N	Percentage of all loan holders (229)	Total number of loans
0	597	0%	0 x 597 = 0
1	68	29.7%	1 x 68 = 68
2	35	15.3%	2 x 35 = 70
3	40	17.5%	3 x 40 = 120
4 or 5	25	10.9%	4.5 x 25 = 112.5
6 or more	61	26.63%	6 x 61 = 366
TOTAL	826	100%	624

Analyzing all these results, and despite the fact that the average number of loans received is nearly 1, these results highlight the fact that most farmers have no access to credit. Most importantly, this low access to credit lines for agricultural production among potential FFPr 2016 beneficiaries reflects their level of poverty and, in consequence, their lack of sufficient creditworthiness, and not the absence of credit institutions in rural areas and small towns. In terms of FFPr 2016 it also shows that promoting access to credits is a much-needed contribution and that a sizeable impact can be obtained by doing so.

At this point, it is important to analyze what the implications for Activity 7 and for indicators 18 and 19 are that USDA and USAID beneficiaries of previous projects cannot be beneficiaries of FFPr 2016. Evidently, it does not mean that they will not be allowed to obtain a loan from new credit lines for coffee farmers developed by MICOOPE with the support of FFPr 2016, or that they cannot be attended by MICOOPE officials trained by the program, but that they should not be the direct and intended beneficiaries of FFPr 2016 resources. In contrast, it would be very valuable for them to be able to benefit indirectly from the project, which implies that their cases should be included (if possible) when periodically informing FFPr 2016 results and impacts.

Indicator 20: "Value of loans provided as a result of USDA assistance [FFPr Standard #6]".

When asked about the amounts of received loans, 8.8% of the farmers that have or had had a credit said that it amounted to less than 1,999 quetzals (276.66 U$S), 24.1% between 2,000 and 4,999 quetzals (276.8 to 691.86 U$S), 34.6% between 5,000 and 9,999 quetzals (692 to 1383,86 U$S), and 32.5% more than 10,000 quetzals (1384 U$S). Considering the midpoint (12,500 for the case of more than 10,000) and the number of farmers included in each category, the mean loan amount received by surveyed farmers would be 7,604.17 quetzals (1,052.42 U$S).

These amounts should be assessed by contrasting them to both agricultural minimum wage and average monthly income in Guatemala. By January 2017, agricultural minimum wage was 2,643.21 quetzals per month (365.82 U$S) (Government Agreement/Acuerdo Gubernativo Nº 288-2016), and by February 2017 average monthly salary (wage after taxes) was 4,500 quetzals, according to available data11. Survey results show that most credits (91.2%) amount to 2,000 or more quetzals (276.8 U$S or more) and that its average amount is approximately 3.8 times more, which would be

[11] http://www.tusalario.org/guatemala/Portada/tu-salario/salario-minimo - https://preciosmundi.com/guatemala/

implying that the 27.7% of farmers that currently have a credit belong to a middle/upper level in terms of financial creditworthiness, and that most farmers (that is, the rest) are not interested or solvent enough to obtain a credit even equal to the minimum agricultural wage.

Additional evidence of obstacles faced by farmers when attempting to access financial services becomes apparent when acknowledging that even the 33.5% of farmers that have or had at least one credit (that is, the ones that have more financial capability), currently do not have bank accounts, fixed-term savings, a credit or a debit card, or any insurance. In brief, this implies that, in general terms, farmers lack the financial instruments and services needed to manage their farm as a business and to reduce transaction costs. Thus, even though there seems to be a percentage of financially capable farmers, they are a minority, and the large majority of them lacks access to credit, working capital and financial services.

4.1.6 FFPr Activity 7. Market access: Enhance producer marketability

Activity 7 will be implemented jointly with ANACAFE, FEDECOCAGUA, and MICOOPE. These institutions were presented before. In this subtitle the commercialization of smallholders' produce in Western Guatemala will be addressed, as well as survey results on the topic.

Commercialization and access to the market

Qualitative fieldwork and quantitative survey results show the importance of intermediaries (also named "coyotes" by local farmers) as way of selling their produce. In this line, 50.7% of the farmers surveyed stated that they sell their products to a "coyote" and 27.8% to a cooperative. Direct sales in local markets or to large exporting companies were less frequent, and direct export is not possible for coffee cooperatives because a specific export license is required in order to export coffee, and there are only a few available in the country, mostly in hands of big companies.

Interestingly, during qualitative fieldwork, the farmers interviewed pointed out that there were no significant differences between prices paid by cooperatives and 'coyotes'. Moreover, it was also argued that cooperatives are even more demanding in terms of product quality than intermediaries. The survey unveiled that 9.4% of the farmers had jointly sold their produce with other farmers as a way of increasing produce volume and thus their bargaining power. Associative processes of this type have great potential for increasing smallholders' income. In this line, many farmers argued that the primary problem is quantity, not quality.

Additionally, 8.5% of the farmers surveyed claimed to have sold organic coffee, and 5.8% took part in fair trade initiatives, which allowed them to obtain better sales prices. These alternatives, along with product differentiation based on its place of origin, seem to facilitate the access to international markets and to help obtain higher prices for their product. However, in general terms, improving local access to markets requires stronger farmers' organizations as a means of increasing the scale of operations. In this way, small farmers will have the possibility of accessing markets that they could not otherwise access as individuals, as well as obtain training, technical assistance, and coffee quality certifications more easily, or receive agricultural inputs at a lower cost as a result of purchasing in bulk. Thus, in order to obtain these benefits, farmers' organizations have to grow stronger so as to provide efficient services to their associates at a lower cost than what they can find individually in the market.

Indicator 1: "Value of sales by project beneficiaries [FFPr Standard #13]" (questions 50 a 61) and *Indicator 2: "Volume of commodities (metric tons) sold by project beneficiaries [FFPr Standard #14]"* (questions 50 a 61). Farmers sell different products. Although they mostly sell crops, in some cases, they also sell animals (mostly chickens and pigs). As part of the survey, farmers were asked whether they had sold crops or animals over the last 12 months (if the answered affirmatively, they were asked to name up to two types of crops and two types of animals). With regards to the sale of crops, the most important were, in terms of the number of farmers selling them, coffee, corn, avocados, kidney beans, tomatoes, peas, and potatoes. Results are shown in Table 10.

Table 10. Value and volume of farmers' sales

Crops and animals	N	Mean value per ton	Mean Sold tons	Mean sales amount (per year)
Coffee and coffee types				
Coffee (all types, only coffee growers)	589	---	0.62	1,022.84
Preachment	372	2,400.54	0.56	1,402.00
Cherry	213	469.77	0.62	285.76
'Bola'	206	717.66	0.10	78.03
'Pinto'	27	906.95	0.26	231.69
Other crops (non coffee)				
Corn	52	385.95	0.99	370.06
Avocados	33	1,106.27	1.31	1,075.07
Kidney beans	20	1,425.52	0.13	176.49
Tomatoes	15	785.29	0.48	326.61
Peas	13	1,226.67	1.39	1,555.88
Potatoes	12	440.57	1.36	607.47
Animals (all types, only who sold)	50	---	---	1,338.62
All crops and animals, tons only for crops, for all farmers surveyed (n=826)	826	---	0.61	920.12

As can be seen, coffee is the most commonly sold product, which is not surprising, considering most farmers were invited to be part of the sample because they are coffee growers. Nonetheless, results also show that farmers do not only sell coffee (even if they are coffee farmers), but also other crops, such as avocados (farmed jointly with coffee and used as shadow), as well as animals, which in some cases can be relevant sources of income. In fact, mean income from peas, avocados and animals (for those who sell these products) is higher than mean income for coffee.

Indicator 34: "Percentage of smallholder farmers who can cite at least 2 product quality standards that they are aiming to meet but didn't before" (questions 141 and 142) and Indicator 35: "Percentage of smallholder farmers who can cite at least two post-production techniques that they are currently using but did not before" (questions 143 to 150).

Interestingly, 50.9% of farmers surveyed said that they had been trying to improve the quality of their crops over the last 12 months. With regards to specific quality standards that they are trying to meet, 15.0% mentioned at least two general quality standards from the list, and 20.5% of coffee farmers mentioned two specific ones for coffee production. The frequency with which farmers mentioned each product quality standard is presented in the Table 11.

Table 11. Product quality standards mentioned

General quality standards (n=826)	N	%
Conditioning (cleaning, classification, etc.)	197	23.8
Improving of presentation for sale	10	1.2
Waiting the appropriate amount of time before selling when using agrochemicals	107	13.0
Organic production	92	11.1
Specific quality standards for coffee (n=638)		
Harvesting at the optimum point of maturity	276	43.3
Cutting and depulping the same day	128	20.1
Washing at the optimum point of fermentation	102	16.0
Laboratory analysis for determining product quality	34	5.3

Note: n includes both farmers who are trying to improve the quality of their products as well as farmers who are not. In the case of standards for coffee, only coffee farmers are taken into consideration.

Regarding post-production/post-harvest techniques, it is important to note that several of them overlap with production quality standards (for instance conditioning or depulping). However, and as required by the SOW, different (yet connected) lists of practices were developed for each standard. Results show that 46.8% of farmers who were not coffee growers (i.e. had not stated coffee as being their first or second crop) implemented at least two general post-production techniques or practices that were on the survey list, over the last 12 months (valid n = 190). Meanwhile, 62.7% of coffee farmers mentioned at least two of those specific to coffee. The frequency of mentioning of each post-production technique or practice is presented in the Table 12.

Table 12. Post-production techniques mentioned

Post production practices (non coffee farmers) (n=190)		%
Cleaning before storing	112	59.9
Humidity control before storing	79	42.0
Use of pesticides or chemical control before storing (silo)	87	45.8
COFFEE post harvest technologies (n=638)		
Depulping	402	63.3
Washing	393	62.1
Classifying	309	49.3
Drying	385	61.0
Toasting and milling	172	27.4

In brief, results of indicators 34 and 35 show that there is ample room for improvement, particularly with regards to quality standards (considering that percentages are lower than those of post-production techniques). In this line, providing training and technical assistance to farmers and organizations will contribute to increasing these figures.
Indicator 38: "Percentage of smallholder farmers who use at least two marketing techniques/tools to sell their products as a results of USDA assistance" (questions 155 to 164). Survey results show that farmers almost never use marketing techniques nor tools to sell their produce. On an individual level, only 1.33% farmers mentioned that they were using at least 2 techniques. These results show the value and need for working on marketing strategies and tools during the project.

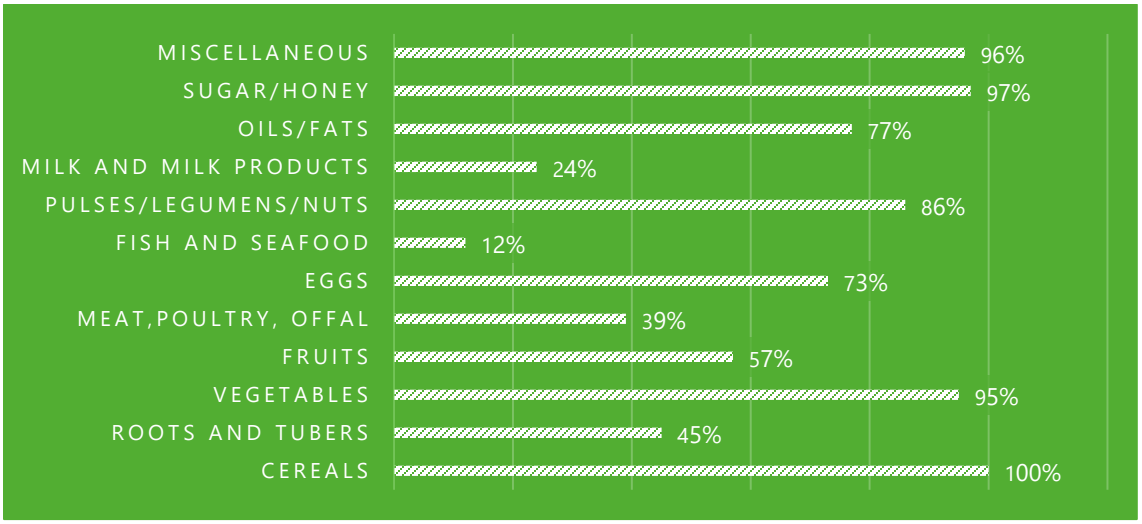
Additionally, it is worth mentioning that some marketing techniques and tools for selling can overlap with product quality standards (indicator 34), e.g. organic production, and with post-production techniques (indicator 35), e.g. packaging of the product. Despite the fact that the survey assigned practices or techniques that could be included in two categories only to one, it is important to take into account this overlapping.

Community context

Three of the indicators for which quantitative information was gathered refer to the community context and have no direct relationship with specific FFPr 2016 activities. Qualitative and quantitative information about them is presented in what follows.

Indicator 4 "Increased Household dietary diversity score (HDDS)" (question 78). The Household dietary diversity Score (HDDS) is an attractive proxy indicator that expresses the number of different food groups consumed by members of a household over a given reference period. This indicator therefore reports on an important range of nutritional and socio-economic issues. The HDDS ranges from 0 to12, with lower numbers indicating less dietary diversity. The overall HDDS score in the survey was 8.0. It indicates that, on average, 8 of the 12 food groups were consumed in each household the day before to the survey. The expanded results for the HDDS are shown in Figure 7.

Figure 7. Percentage of persons consuming food groups in Household Dietary Diversity Score (HDDS)

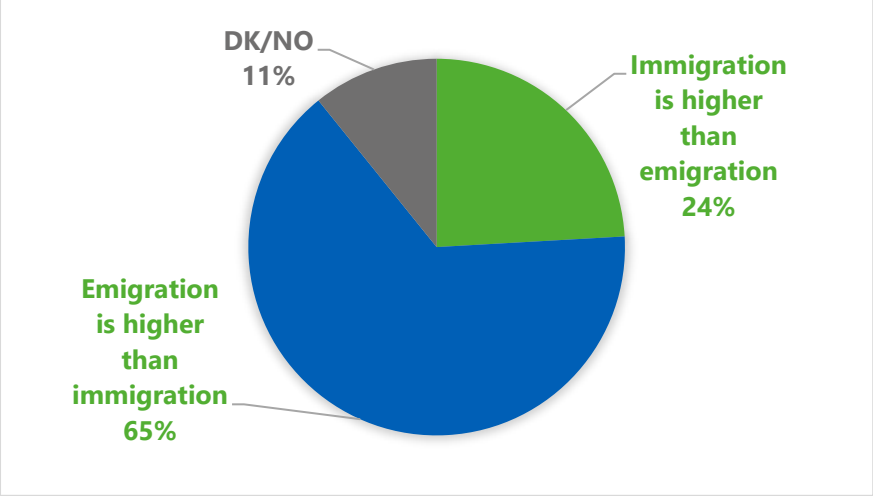


Results show that family diet is based on the consumption of cereals (mostly corn), sugar, legumes, vegetables, and vegetable oil. Low percentages of consumption of high-protein food such as meat (less than 40%) or dairy products (24%) highlight. In contrast eggs (which have high levels of protein) are consumed by 73% of families. Partaking in a project aimed at improving agricultural production and increasing income such as FFPr 2016 is expected to lead to a dietary improvement, particularly to an increase in meat and milk consumption.

Indicator 8: "Community perception of migration rate dynamics during the reporting period" (questions 81 to 86). Interviews suggest that emigration in general is high, and that there is indeed a "culture" of emigration, but also that migrants go and come back as a result of different factors. Among them, 'having been successful' is a central one. For instance, in the area there are many people that migrated to the United States and returned when they saved enough money to build a house and buy farm land. Moreover, others argued that changes in commodity prices (particularly a reduction in the price of coffee) could trigger emigration. Furthermore, several interviewees pointed out that farmers' replies to questions about migration are not necessarily trustworthy, because they tend to hide such information, particularly when asked in the context of a baseline study funded by a US institution such as Counterpart.

In general terms, survey results show that emigration is clearly stronger than immigration at this moment in the region (65.1% against 24.1%), and that most respondents consider emigration to be high (59%). Among the causes of emigration, "money made in rural areas is not enough to live" (71.7%) and "there are no jobs in rural areas" (44.8%) were highlighted. Finally, with regards to where farmers emigrate, most of those surveyed mentioned the US (44.8%), followed by Mexico (19%) and Guatemala City (18.8%). In contrast, emigration to other Guatemalan departments or municipalities seems to be low (7.4%).

Figure 8. Perception of migration dynamics

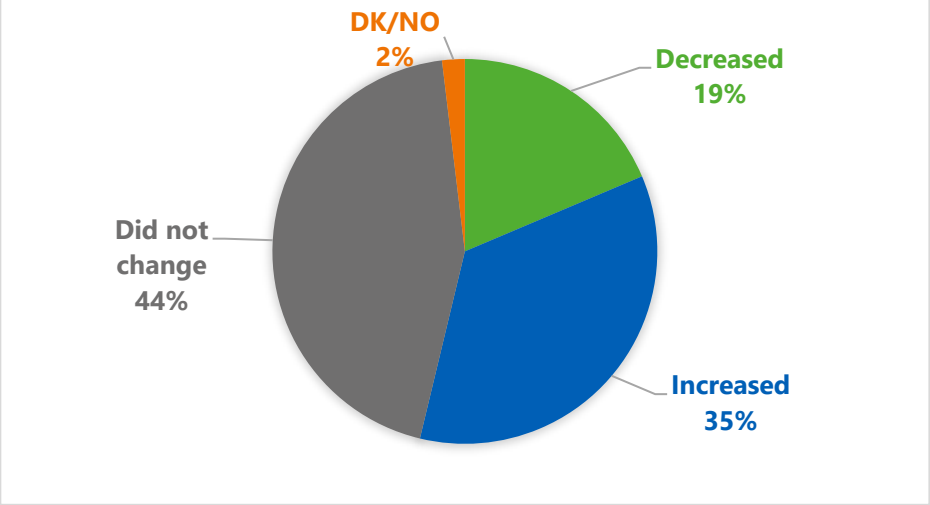


Indicator 11: "Community perception of crime rate dynamics during the reporting period" (questions 87 and 88). During the interviews, farmers mentioned that many communities have used traditional strategies for fighting crime, including indigenous law and community enforcement (even vigilante

justice). Additionally, it was also mentioned that communities do not always consider drug-trafficking to be a problem, because these criminals do not affect or harm community members if they are not reported to the authorities.

In general terms, 44.3% of survey respondents considered that crime remained stable during the last year, while 35.1% argued that it increased and 18.6% that it decreased, which could suggest a slight tendency to increase. With regards to the most common crimes, "theft" ranked first (68.5%), second "domestic violence" (37.4%), third "aggressions" (32.1%), and fourth "drug-related crimes" (27.7%).

Figure 9. Perception of crime dynamics over the last 12 months



4.2 Baseline results for performance indicators

In this heading, results of the baseline assessment are provided for each performance indicator for which the SOW requested quantitative data.

Table 13. Results of the baseline assessment per performance indicator

#	Performance Indicator	Indicator values (n=826 if not mentioned differently)
1	Value of sales by project beneficiaries [FFPr Standard #13]	Mean value of sales per year and farmer = 920.16 US dollars
2	Volume of commodities (metric tons) sold by project beneficiaries [FFPr Standard #14]	Mean volume sold per farmer = 0.61 metric tons (two main crops, animals excluded)
4	Increased Household dietary diversity score (HDDS)	Mean HDDS score = 8.0
8	Community perception of migration rate dynamics during the reporting period	59.0% considers that the number of people leaving their municipality (emigrating) is very high 65.1 % considers that there are more people leaving their municipality then moving to it, while 24.1% the opposite (the rest

		do not make up their mind)
11	Community perception of crime rate dynamics during the reporting period	44.3% considers that crime remained stable during the last year, 35.1% that it increased, and 18.6% that it decreased
12	Percentage of smallholder farmers who make production plans and/or investments to sustain and improve the quality of land and water resources	Use of different technologies and practices that conserve and improve soil quality over the last 12 months: avoided burning stubble (83.1%), practiced organic fertilization (80.5%), incorporated stubble into the soil (55.8%), practiced tillage without overturning soil (48.1%), constructed live and dead barriers (34.1%), farmed following contour lines (28.8%), constructed terraces (20%), constructed ditches (18.1%), and constructed infiltration wells (7.5%) Use of different technologies and practices that conserve and improve water availability over the last 12 months: covered the soil to retain moisture (33.1%), collected or harvested water (30.3%), cared or constructed pond or water reservoir (8.4%), diverted or channeled stream (5.3%), and constructed or purchased irrigation system (5%)
13	Number of hectares under improved techniques or technologies as a result of USDA assistance [FFPr Standard #1]	Mean area under improved techniques or technologies per farmer = 1.30 hectares
14	Number of individuals who have applied new techniques or technologies as result of USDA assistance [FFPr Standard #2]	Percentage of farmers who regularly apply improved techniques or technologies: use insecticides (61%), practice seed selection (32.8%), take precautionary measures when using agrochemicals (28.6%), incorporate new varieties or seeds (28.5%), practice vaccination (23.1%), practice deworming (14.2%), have or use irrigation system (4.8%), use ICTs to access information (4.1%), incorporate new breeding animal or with improved genetics (3.1%) Percentage of farmers who regularly apply improved techniques or technologies that are specific for coffee: manage shade (93.5%), practice pruning (90.4), use seedbeds (40.5%), farm improved coffee varieties (35.1%), conduct soil analysis (26%), own coffee drying facilities (25%), use fermentation pile (16.5%), own coffee washing facilities (15.4%), treat coffee waste water (12.3%)
15	Increased average agricultural yield per hectare (main crops)	Coffee (n=599) = 1.00 metric tons per hectare Corn (n=436) = 1.78 metric tons per hectare Kidney bean (n=71) = 0.71 metric tons per hectare
18	Number of individuals receiving financial services as a result of USDA assistance [FFPr Standard #4] Disaggregation by gender and age	27.7% of farmers have a credit (33.6% in the case of men and 20.6% in that of women) There are no differences observed due to age (Mean age of those who have a credit = 46.76 years old; Mean age of those who do not have a credit = 46.43 years old)
19	Number of loans disbursed as a result of USDA assistance [FFPr Standard #5]	These results imply that the average number of loans received by each farmer is 0.76 (n=229, only credit holders)
20	Value of loans provided as a result of USDA assistance [FFPr Standard #6]	Mean loan amount received = 1,052.42 U$S (n=228, only credit holders)
23	Number of individuals who have applied improved farm	16.4% have written records of expenses and income 36.4% search for information on the internet, consult technicians

	management practices (i.e. governance, administration, or financial management) as a result of USDA assistance [FFPr Disaggregation by gender and age Standard #3]	or radio/television in order to make important decisions regarding farming
27	Percentage of farmers who perceive that there is an increase in government's extension service provision	26.46% consider that visits from rural extensionists are more frequent than in previous years, 25.49% that that they are less frequent and 48.06 that they are the same (there are differences between specific institutions)
30	Number of private enterprises, producers' organizations, water users' associations, women's groups, trade and business associations, and community-based organizations (CBOs) that applied improved techniques and technologies as result of USDA assistance [FFPr Standard #7]	The use of improved technologies varies depending on farmers' membership to different types of organizations. Three types of organizations are considered here: CADER, GATs, and associations/cooperatives (COOP). Percentage of farmers who regularly apply improved techniques or technologies that are specific for coffee, per type of organization: manage shade (CADER: 93.33%, GAT: 94.32%, COOP: 93.14%), practice pruning (CADER: 90.00%, GAT: 92.97%, COOP: 88.09%), use seedbeds (CADER: 46.67%, GAT: 44.05%, COOP: 34.66%), farm improved coffee varieties (CADER: 13.33%, GAT: 35.14%, COOP: 39.71%), conduct soil analysis (CADER: 40.00%, GAT: 21.89%, COOP: 33.21%), own coffee drying facilities (CADER: 20.00%, GAT: 24.59%, COOP: 27.08%), use fermentation pile (CADER: 16.67%, GAT: 14.32%, COOP: 18.41%), own coffee washing facilities (CADER: 16.67%, GAT: 11.62%, COOP: 19.86%), treat coffee waste water (CADER: 13.33%, GAT: 11.89%, COOP: 13.72%) Percentage of farmers who regularly apply improved techniques or technologies, per type of organization: use insecticides (CADER: 54.87%, GAT: 64.97%, COOP: 62.58%), practice seed selection (CADER: 43.59%, GAT: 34.49%, COOP: 23.87%), take precautionary measures when using agrochemicals (CADER: 25.64%, GAT: 27.27%, COOP: 34.52%), incorporate new varieties or seeds (CADER: 23.08%, GAT: 29.41%, COOP: 31.61%), practice vaccination (CADER: 35.38%, GAT: 21.39%, COOP: 18.39%), practice deworming (CADER: 23.59%, GAT: 12.83%, COOP: 11.61%), have or use irrigation system (CADER: 9.74%, GAT: 4.55%, COOP: 2.90%), use ICTs to access information (CADER: 2.05%, GAT: 1.87%, COOP: 7.74%), incorporate new breeding animal or with improved genetics (CADER: 6.67%, GAT: 1.60%, COOP: 2.58%).
34	Percentage of smallholder farmers who can cite at least 2 product quality standards that they are aiming to meet but didn't before.	15.0% mentioned at least two general quality standards (n=826) 20.5% mentioned at least two specific coffee quality standards (n=638, only coffee farmers)
35	Percentage of smallholder farmers who can cite at least two post-production techniques that they are currently using but did not before.	46.8% were implementing at least two general post-production techniques (n=190, only non coffee farmers) 62.7% were implementing at least two specific post-production techniques for coffee (n=638, only coffee farmers)
37	Total increase in installed storage capacity (dry or cold storage) as a result of USDA assistance [FFPr Standard #11]	48.1% store their produce (in their own facilities or those of their cooperative or association) In 1.3% of cases storage capacity increased, and in 4% diminished (n=397, only farmers who store their produce)

		When it increased, it did between 0.1 and 49.9% (3 cases) and between 50% and 100% (2 cases)
38	Percentage of smallholder farmers who use at least two marketing technique/tool to sell their products as a results of USDA assistance	1.33% were using at least two marketing techniques or tools

05/ KEY CONCLUSIONS AND RECOMMENDATIONS

5.1 Comments and recommendations on indicators

FFPr 2016 has 39 indicators. 13 of them are FFPr standard indicators, and 2 are standard indicators to which small changes were made (which implies that their definition and content should not be changed), while the others 24 are not (Counterpart could modify them). During interviews, several key informants (Counterpart and other partners' staff) showed concern about (a) the quantity and diversity of indicators, (b) their potential overlapping, and (c) the actual possibility of the project having an impact on all of them.

In the first place, the definitions of FFPr standard indicators are clear, given that USDA documentation describes them in detail. However, this does not seem to be the case for the rest of the indicators. Non-USDA indicators currently have brief definitions that are not always developed enough to be put into practice, instead of the detailed descriptions of USDA standard indicators. In consequence, writing a document with a clear and standardized description of non-USDA standard indicators seems advisable.

In the second place, the list of indicators is large (39 in total) and their content diverse. This may lead to an increase in bureaucracy and may be difficult to implement, thus requiring a sizeable budget, where monitoring and evaluation become an end in itself. Considering that some of them overlap and others are beyond the area of influence of the project, reducing their number (if and when possible) may prove useful for FPPr 2016 (recommendations on this are made below). In what follows, comments and reflections on specific indicators are made:

- Indicator 3 "Number of Individuals who report an increase in income after participating in Counterpart activities" seems to measure a variable similar to indicator 5 "Percentage of individuals who report increase in household expenditure". For small farmers, "level of expenditure" is almost equal to "level of income", which would allow for the removal of one of them from the indicator list. Being that indicator 3 is simpler to measure, indicator 5 could be removed from the final FFPr 2016 indicators list.

- Indicator 4 "Increased Household dietary diversity score (HDDS)" seems to be very valuable as a way of indirectly assessing the impact of the project on families' lives. In this sense, it would make the inclusion of other indicators that assess indirect impact unnecessary.

- Indicator 8 “Community perception of migration rate dynamics during the reporting period” and indicator 11 “Community perception of crime rate dynamics during the reporting period”, though relevant, do not seem to be within the direct area of influence of the project. They may be kept as contextual information, but removing them from the indicator list would make Monitoring and Evaluation simpler.

- Indicator 10 (“Number of new businesses created in low income areas”) and indicator 32 (“Number of jobs created attributed to USDA assistance”) are undoubtedly valuable. However, it is worth noting that they raised a special concern among some interviewees, in the sense that creating businesses and jobs could be an indirect result of the project, but not what the proposed activities are directly aimed at achieving. Moreover, they also tend to overlap, because creating businesses and jobs are usually interrelated, particularly when referring to self-employement and family businesses. Given that indicator 32 parallels a FFPr standard indicator, indicator 10 could be removed from the indicators list.

- All techniques, technologies and investments identified during this baseline study that refer to Indicator 12 (“Percentage of smallholder farmers who make production plans and/or investments to sustain and improve the quality of land and water resources”) are at the same time new or improved techniques and technologies, which implies that they are included in what Indicator 14 assesses (“number of individuals who have applied new techniques or technologies as result of USDA assistance [FFPr Standard #2]”). Thus, indicator 12 could be removed from the list of indicators without losing information.

- Indicator 15 (“Increased average agricultural yield per hectare (main crops)”) was assessed during the survey using indirect strategies. In some cases, farmers overestimated production and, in consequence, yield, which lead to the need for evaluating yield figures with caution. Additionally, it is important to note that yield decrease should not always be considered negative in the context of this project, because it could be the result of reducing the use of agrochemicals due to coffee certification requirements.

- Indicator 22 “Increase in scores of post-training assessments compared against pre-training assessments in trainings that are specifically about agriculture techniques and technologies” and indicator 25 “Increase in scores of post-training assessments compared against pre-training assessments in trainings that are specifically about farm management” mention different training topics. However, as a result of having the same rationale, they could be easily merged into one, hence reducing the number of indicators.
- In the current Guatemalan institutional and political context, Indicator 27 (“Percentage of farmers who perceive that there is an increase in government’s extension service provision”) does not seem to be a good strategy for assessing the impact of FFPr 2016, due to a number of reasons. First, the number of ANACAFE, FEDECOCAGUA and MAGA extension personnel in the field could vary for different reasons, including political ones (in the case of MAGA), or variations in the international value of coffee (in the case of ANACAFE and FEDECOCAGUA). And, second, the finalization of the PCVR project is causing a reduction (and is likely to cause an even greater reduction) in the quantity of ANACAFE and FEDECOCAGUA extension agents/advisors in the near future. In consequence, it is likely that the availability of extension services in the project area of intervention will change due to a number of reasons that are out of FFPr 2016’s control, such as MAGAs’ political priorities, and the international price of coffee. Moreover, the finalization of PCVR has recently reduced the presence of extension workers in Huehuetenango and San

Marcos. Thus, future assessments of indicator and their contrast with baseline results should be taken with caution and contextualized. Moreover, the fact that baseline survey results could be somewhat biased towards specific organizations such as ANACAFE and MAGA, because they were the ones that invited farmers to partake of the sample, should be taken into consideration.

- Indicator 30 "Number of private enterprises, producers' organizations, water users' associations, women's groups, trade and business associations, and community-based organizations (CBOs) that applied improved techniques and technologies as result of USDA assistance [FFPr Standard #7]". The indicator assesses the use of improved technologies by organizations/enterprises, not by individual farmers themselves. However, in the context of the project intervention, it is farmers who are expected to implement improved practices and technologies. The idea of farmers' organizations implementing productive practices does not, thus, have a clear meaning or reference. In this line, removing it from the indicator list would be advisable, but it is not possible to do so because it is an FFPr standard indicator. Thus, in this context, it could be used to quantify the number of associations, CADERs, GATs, and cooperatives that incorporate a new technology or practice as a result of a grant provided by the project, or when the majority of the members of a farmers' group incorporate a new productive technology as a result of one or more training sessions.

- In the context of coffee production, indicators 34 ("Percentage of smallholder farmers who can cite at least 2 product quality standards that they are aiming to meet but didn't before"), and 35 ("Percentage of smallholder farmers who can cite at least two post-production techniques that they are currently using but did not before") could overlap, depending on the definition of each one. For instance, the correct and timely removal of the pulp could be considered both a post-production technique as well as a key aspect of quality. Moreover, they could also overlap with indicator 38 ("Percentage of smallholder farmers who use at least two marketing techniques/tools to sell their products as a results of USDA assistance"), because practices such as packaging could be considered both post-production and marketing techniques. Nonetheless, in the case of indicator 38 there is a clear difference with the others, because it assesses the use of the techniques, while indicators 34 and 35 focus on the small farmers' capacity to cite or mention them. Thus, particularly in the cases of indicators 34 and 35, it would be advisable to include in their definitions the specific practices to be considered when assessing each one. Additionally, and in practical terms, it will be necessary to decide whether or not these three indicators will be applied only for coffee production, or if they will be also considered for horticulture, considering that the type of practices to be assessed are substantially different.

In brief, the baseline team recommends clarifying the definition of the indicators that are not FFPr-standard, reducing them whenever possible, and avoiding including indicators that overlap or do not refer directly to the project's planned activities.

Table 14. Summary of comments and recommendations on indicators

#	Performance Indicator	Brief comment	Recommendation
1	Value of sales by project beneficiaries [FFPr Standard #13]	This is a useful indicator for the project	Keep this indicator in the final FFPr 2016 indicators list
2	Volume of commodities (metric tons) sold by project beneficiaries [FFPr Standard #14]	This is a useful indicator for the project	Keep this indicator in the final FFPr 2016 indicators list

3	Number of Individuals who report an increase in income after participating in Counterpart activities	Indicator 3 seems to measure a variable similar to indicator 5, but indicator 3 is simpler to measure	Keep indicator 3 and remove indicator 5 from the final FFPr 2016 indicators list
4	Increased Household dietary diversity score (HDDS)	This indicator seems interesting, because it can indirectly assess the global impact of FFPr 2016.	Keep this indicator in the final FFPr 2016 indicators list as a valid source of information, but do not establish a specific target, because FFPr 2016 does not aim to work directly with household dietary diversity
5	Percentage of individuals who report increase in household expenditure	Indicator 5 seems to measure a variable similar to indicator 3, and indicator 3 is simpler to measure	Remove indicator 5 from the final FFPr 2016 indicators list
6	Number of individuals who have received short-term agricultural sector productivity or food security training as a result of USDA assistance [FFPr Standard #16]	This is a useful indicator for the project	Keep this indicator in the final FFPr 2016 indicators list
7	Total number of individuals benefiting directly as a result of USDA assistance [FFPr Standard #17]	This is a useful indicator for the project	Keep this indicator in the final FFPr 2016 indicators list
8	Community perception of migration rate dynamics during the reporting period	This indicator is not within the scope of FFPr 2016	Remove this indicator of the final FFPr 2016 indicators list
9	Total number of individuals benefiting INDIRECTLY as a result of USDA assistance [FFPr Standard #18]	This is an useful indicator for the project	Keep this indicator in the final FFPr 2016 indicators list
10	Number of new businesses created in low income areas.	This indicator is valuable but will be difficult to measure, and tends to overlap with indicator 32 (which parallels a FFPr Standard Indicator)	Remove this indicator from the final FFPr 2016 indicators list
11	Community perception of crime rate dynamics during the reporting period	This indicator is not within the scope of FFPr 2016	Remove this indicator from the final FFPr 2016 indicators list
12	Percentage of smallholder farmers who make production plans and/or investments to sustain and improve the quality of land and water resources	Techniques, technologies and investments referred to indicator 12 are also new or improved technologies (Indicator 14).	Remove this indicator from the final FFPr 2016 indicators list
13	Number of hectares under improved techniques or technologies as a result of USDA assistance [FFPr Standard #1]	This is a useful indicator for the project	Keep this indicator in the final FFPr 2016 indicators list
14	Number of individuals who have applied new techniques or technologies as result of USDA assistance [FFPr Standard #2]	This is a useful indicator for the project	Keep this indicator in the final FFPr 2016 indicators list
15	Increased average agricultural yield per hectare (main crops)	This is a useful indicator for the project	Keep this indicator in the final FFPr 2016 indicators list
16	Number of Organizational Capacity Building Grants provided to support improved inputs	This is a useful indicator for the project	Keep this indicator in the final FFPr 2016 indicators list
17	Number of Organizational Capacity Building Grants provided to support on-farm infrastructure	This is a useful indicator for the project	Keep this indicator in the final FFPr 2016 indicators list
18	Number of individuals receiving financial services as a result of USDA assistance [FFPr Standard #4]	This is a useful indicator for the project	Keep this indicator in the final FFPr 2016 indicators list
19	Number of loans disbursed as a result of USDA assistance [FFPr Standard #5]	This is a useful indicator for the project	Keep this indicator in the final FFPr 2016 indicators list

20	Value of loans provided as a result of USDA assistance [FFPr Standard #6]	This is a useful indicator for the project	Keep this indicator in the final FFPr 2016 indicators list
21	Number of smallholder farmers who have received training specifically on agriculture techniques and technologies as a result of USDA assistance.	What this indicator assesses is included in indicator 6, which is also an FFPr Standard Indicator	Remove this indicator from the final FFPr 2016 indicators list
22	Increase in scores of post-training assessments compared against pre-training assessments in trainings that are specifically about agriculture techniques and technologies	This indicator could be merged with indicator 25	Remove indicators 22 and 25, and replace them with a new one which reads as "Increase in scores of post-training assessments compared against pre-training assessments in trainings that address different topics"
23	Number of individuals who have applied improved farm management practices (i.e. governance, administration, or financial management) as a result of USDA assistance [FFPr Standard #3]	This is a useful indicator for the project	Keep this indicator in the final FFPr 2016 indicators list
24	Number of smallholder farmers who have received training specifically on farm management as a result of USDA assistance	What this indicator assesses is included in indicator 6, which is also an FFPr Standard Indicator	Remove this indicator of the final FFPr 2016 indicators list
25	Increase in scores of post-training assessments compared against pre-training assessments in trainings that are specifically about farm management	This indicator could be merged with indicator 22	Remove indicators 22 and 25, and replace them with a new one which reads as "Increase in scores of post-training assessments compared against pre-training assessments in trainings that address different topics"
26	Number of MAGA representatives who received strategic and operational trainings in institutional strengthening	This is a useful indicator for the project	Keep this indicator in the final FFPr 2016 indicators list
27	Percentage of farmers who perceive that there is an increase in government's extension service provision	This would be a valuable indicator, but multiple factors besides FFPr 2016 will have a sizable impact on the indicator, mostly by diminishing the extension service provision during the implementation of the project.	Remove this indicator from the final FFPr 2016 indicators list
28	Number of private enterprises, producers' organizations, water users' associations, women's groups, trade and business associations, and community-based organizations (CBOs) that received training in marketing and business development	This is a useful indicator for the project, and is different to others because it addresses farmer organizations and not individual farmers	Keep this indicator in the final FFPr 2016 indicators list
29	Number of extension agents and MAGA technical staff completing specialized crop-specific training courses	This is a useful indicator for the project	Keep this indicator in the final FFPr 2016 indicators list
30	Number of private enterprises, producers' organizations, water users' associations, women's groups, trade and business associations, and community-based organizations (CBOs) that applied improved techniques and technologies as result of USDA assistance [FFPr Standard #7]	This indicator is an FFPr Standard Indicator. However, in the context of FFPr 2016 project, the idea that farmers' organizations implement productive practices does not have a clear meaning or reference.	Keep this indicator in the final FFPr 2016 indicators list because it is a FFPr Standard Indicator and cannot be removed from the list.

31	Number of extension agents and agricultural advisors who received certification	This is a useful indicator for the project	Keep this indicator in the final FFPr 2016 indicators list
32	Number of jobs created attributed to USDA assistance	This indicator parallels FFPr Standard Indicator #15 but does not read exactly the same. Its current definition (informed in the ToR), refers to the creation of jobs among CADER members	Keep this indicator in the final FFPr 2016 indicator's list but change its definition to include other beneficiaries and not only CADER members
33	Number of trade promotion activities conducted aimed at the private sector	This is a useful indicator for the project	Keep this indicator in the final FFPr 2016 indicators list
34	Percentage of smallholder farmers who can cite at least 2 product quality standards that they are aiming to meet but didn't before.	Practices and processes included in 34 and 35 overlap in some cases, particularly with regards to coffee production	Keep this indicator in the final FFPr 2016 indicators list but include in its description the specific list of product quality standards addressed in this baseline study
35	Percentage of smallholder farmers who can cite at least two post-production techniques that they are currently using but did not before.	Practices and processes included in 34 and 35 overlap in some cases, particularly with regards to coffee production	Keep this indicator in the final FFPr 2016 indicators list but include in its definition the specific list of post-production techniques addressed in this baseline study
36	Number of grants provided to support improved post-harvest infrastructure and equipment	This is a useful indicator for the project	Keep this indicator in the final FFPr 2016 indicators list
37	Total increase in installed storage capacity (dry or cold storage) as a result of USDA assistance [FFPr Standard #11]	This is a useful indicator for the project	Keep this indicator in the final FFPr 2016 indicators list
38	Percentage of smallholder farmers who use at least two marketing technique/tool to sell their products as a results of USDA assistance	This indicator focuses on the use of marketing techniques or tools and not on the knowledge of their existence, which makes it different to other indicators such as indicators 34 and 35.	Keep this indicator in the final FFPr 2016 indicators list
39	Number of Agreements signed between buyers/sellers through USDA supported activities	This is a useful indicator for the project	Keep this indicator in the final FFPr 2016 indicators list

Table 15 presents the list of indicators for FFPr 2016 in case all recommendations are accepted.

Table 15. List of proposed indicators for final FFPr 2016 indicators list

#	Performance Indicator
1	Value of sales by project beneficiaries [FFPr Standard #13]
2	Volume of commodities (metric tons) sold by project beneficiaries [FFPr Standard #14]
3	Number of Individuals who report an increase in income after participating in Counterpart activities
4	Increased Household dietary diversity score (HDDS)
5	Number of individuals who have received short-term agricultural sector productivity or food security training as a result of USDA assistance [FFPr Standard #16]

6	Total number of individuals benefiting directly as a result of USDA assistance [FFPr Standard #17]
7	Total number of individuals benefiting INDIRECTLY as a result of USDA assistance [FFPr Standard #18]
8	Number of hectares under improved techniques or technologies as a result of USDA assistance [FFPr Standard #1]
9	Number of individuals who have applied new techniques or technologies as result of USDA assistance [FFPr Standard #2]
10	Increased average agricultural yield per hectare (main crops)
11	Number of Organizational Capacity Building Grants provided to support improved inputs
12	Number of Organizational Capacity Building Grants provided to support on-farm infrastructure
13	Number of individuals receiving financial services as a result of USDA assistance [FFPr Standard #4]
14	Number of loans disbursed as a result of USDA assistance [FFPr Standard #5]
15	Value of loans provided as a result of USDA assistance [FFPr Standard #6]
16	Increase in scores of post-training assessments compared against pre-training assessments in trainings that address different topics
17	Number of individuals who have applied improved farm management practices (i.e. governance, administration, or financial management) as a result of USDA assistance [FFPr Standard #3]
18	Number of MAGA representatives who received strategic and operational trainings in institutional strengthening
19	Number of private enterprises, producers' organizations, water users' associations, women's groups, trade and business associations, and community-based organizations (CBOs) that received training in marketing and business development
20	Number of extension agents and MAGA technical staff completing specialized crop-specific training courses
21	Number of private enterprises, producers' organizations, water users' associations, women's groups, trade and business associations, and community-based organizations (CBOs) that applied improved techniques and technologies as result of USDA assistance [FFPr Standard #7]
22	Number of extension agents and agricultural advisors who received certification
23	Number of jobs created attributed to USDA assistance
24	Number of trade promotion activities conducted aimed at the private sector
25	Percentage of smallholder farmers who can cite at least 2 product quality standards that they are aiming to meet but didn't before.
26	Percentage of smallholder farmers who can cite at least two post-production techniques that they are currently using but did not before.
27	Number of grants provided to support improved post-harvest infrastructure and equipment

28	Total increase in installed storage capacity (dry or cold storage) as a result of USDA assistance [FFPr Standard #11]
29	Percentage of smallholder farmers who use at least two marketing technique/tool to sell their products as a results of USDA assistance
30	Number of Agreements signed between buyers/sellers through USDA supported activities

5.2. Key conclusions and recommendations in the context of FFPr 2016 activities

In what follows, some conclusions and recommendations will be presented, organized within each of the 7 activities implemented by the FFPr 2016.

Activity 1. Capacity building: Government institutions (MAGA). MAGA is the most important rural extension institution of the country, yet it is very weak on an institutional level. Thus, contributing to strengthening it will be particularly valuable. Two recommendations are proposed with the intention of fulfilling this aim: (1) To coordinate activities and strategies with other institutions that are working in the same line, particularly FAO and the European Commission, and (2) To attempt to lend support to and give a central role to MAGA mid-level, permanent staff during the design and implementation of the activities, considering they are the ones who will continue to work in the institution over time, and not political authorities or short-term extension personnel.

Activity 2. Capacity building: Agricultural extension agents and services (Certification Program). The training of rural extensionists/technical advisors is essential to the objective of increasing small farmers' income and productivity. Considering that ANACAFE and FEDECOCAGUA will be new partners during this project, their technicians' participation in the Certification Program should be encouraged. Finally, transitioning full responsibility of the Certification Program to USAC by the end of the project is an important aim, but it may encounter funding problems that will have to be adequately accounted for.

Activity 3. Capacity building: Producers' groups and cooperatives and Activity 4. Cash and in-kind grants: Inputs, equipment, post-harvest infrastructure. Counterpart has significant experience in the direct implementation of these activities. In order to assure the long-term sustainability of the impact of both activities, follow-up work with the CADERs, associations and cooperatives after project actions are finished will be essential. In this line, the selection of beneficiaries and the implementation of activities should be closely coordinated with ANACAFE, FEDECOCAGUA and/or MAGA, because they are the ones who will provide the follow-up for the groups. Moreover, considering that the infrequent use of certain improved technologies is often the result of the lack of resources available for investments, the selection of grant beneficiaries should be coordinated with ANACAFE and FEDECOCAGUA with the aim of supporting farmer groups trained in the context of activity 5.

Activity 5. Training: improved agricultural production techniques and farm management. Survey results show that there is considerable margin for improvement in the use of production and post-production techniques and technologies as well as in encouraging famers to adopt measures that improve product quality. In this context, the sustainable management of natural resources (i.e. the

use of sustainable productive techniques) and the integrated management of pests (such as rust) are fundamental and should be taken into consideration during the implementation of the project.

In the survey, farmers mentioned three reasons for not using improved technologies and techniques: lack of knowledge of their existence, lack of technical assistance in order to implement them, and lack of resources for necessary investments. Activity 5 will deal directly with the first reason (training and dissemination of technologies), and indirectly with the second one. With regards to the lack of resources for investment, a fluid articulation with Activity 4 (grants) and 5 (credits) will be required, in order to generate synergies between all of the FFPr 2016 activities.

Finally, the low extensionist to farmer ratio (particularly in the case of ANACAFE) has to be acknowledged and taken into account during the design phase of the activities, because it could affect the dynamics of the project.

Activity 6. Financial services: Facilitate agricultural lending. Having access to credit for investments and working capital is very important for the farmers. However, survey results show that most farmers do not have access to credits or to other financial products. Moreover, MICOOPE has no specific credit line for coffee growers (coffee is a product with particular credit requirements, because it is a permanent crop and requires between 3 and 4 years to produce and be profitable). MICOOPE is in the process of developing new financial products for agriculture, but developing a specific one for coffee could take up two years, which implies that Counterpart should define quantitative objectives for indicators 18, 19, and 20 accordingly. In this context, it would be interesting to incorporate a new indicator for the development of the new financial product(s) themselves.

A good and fluid coordination between ANACAFE, FEDECOCAGUA, and MICOOPE will be fundamental for the development of a financial product that responds to coffee growers' needs. Nonetheless, the role of FEDECOCAGUA seems to be more ambiguous here because it has its own financial institution (BANRURAL). However, the coordination between financial and technical institutions could be a good opportunity for developing an innovative financial product, in which the existence of technical assistance provided by these institutions could be considered as a factor that lowers financial risk.

A significant fact to be taken into account is that men and women do not have equal access to credit. This should also be considered when implementing Activity 6, as well as the fact that it is possible that many coffee farmers will not even be able to access specific credit lines for coffee, due to their lack of financial creditworthiness.

Activity 7. Market access: Enhance producer marketability. Market access is fundamental to commercial farmers. In the case of small farmers, coffee farmer organizations play a fundamental role in increasing the volume of product to be sold and, in helping them to have access to different types of certifications that are expected to increase sales prices. It is significant to note that, according to the survey results, farmers have scarce knowledge of marketing strategies and methodologies, which implies that actions undertaken to change this will be highly beneficial. In the same line, it is also important to take into account the role that FFPr 2016 could play in contributing to the strengthening of farmer organizations, as a way of increasing their negotiating capacity with potential buyers (this could be done in articulation with Activity 3 'capacity building'). Farmer organizations need to have storage capacity and acquire negotiation skills and techniques so as to

engage effectively in national and international markets, and have enough financial capability to pay small farmers when they hand over the product, and not when it is paid by the final buyers.

In this context, it is important to note that, during qualitative fieldwork, some farmers mentioned that prices paid by intermediaries (known locally as 'coyotes') were not necessarily lower than those paid by cooperatives, and that dealing with them could have some additional advantages, such as receiving payment for the product in the moment and not having to meet high demands regarding product quality. This does not mean that farmers consider selling to coyotes to be the best option in general, but that intermediaries could sometimes solve situations (such as the immediate need of the money), which cooperatives are sometimes unable to do.

5.3. Final comments

In the previous subtitles, reflections and recommendations regarding FFPr 2016 indicators and activities were presented. This heading will present two comments that are very important for the successful implementation of the project.
Firstly, the USDA decision to limit potential beneficiaries to smallholders who have not previously received support from USDA or USAID is central and frames the project in different ways. On the one hand, FEDECOCAGUA has no member organizations in Huehuetenango and San Marcos that qualify to partake in FFPr 2016, thus implying that ANACAFE would be the only partner for activities 5 and 7 in both departments. At the same time, there is also the dilemma of who is considered to be the beneficiary of a project such as PCVR, for instance, which supported coffee cooperatives and organizations. Only the organization itself or the organization and its individual members? The answer to this question could allow for the FEDECOCAGUA cooperative members who did not receive direct support to partake in the project in Huehuetenango and San Marcos.

On the other hand, this USDA decision also poses a challenge for MICOOPE and activity 6, because MICOOPE should aim for working with the most creditworthy farmers, and these could be so as the result of having had access to US government support. Moreover, there is also a difference between direct and indirect beneficiaries. FFPr 2016 will train rural extensionists, loan officers and help MICOOPE to develop a specific financial product for coffee farmers. Should or should not the impact generated in farmers by interacting with these trained personnel be considered a result of FFPr 2016, even though these farmers had been previously supported, for instance, by PCVR? The same applies for those who benefit from the new financial product to be developed by MICOOPE. Should the use of such products not be informed by the project, in the case when said farmer had received benefits from previous US government projects? In this context, it seems necessary to clarify the specific implications of the USDA decision before establishing the numeric objective of each indicator.

In the second place, it is important to note that the key to increasing FFPr 2016's impact and success is synergy. This refers to synergies between different activities implemented and between the different actors involved. Creating synergy between different FFPr 2016 activities means planning how each one could be used to boost others, for instance strengthening organizations (activity 3) in order to improve market access (activity 7), providing grants (activity 4) in order to support technology change (activity 5), and so on. These synergies should be planned beforehand and not only decided during the process. Likewise, synergies between institutions means acknowledging the potential of each partner institution for enhancing the results of all activities. For instance, training

ANACAFE staff so that they can support farmers who seek to obtain credits, or coordinating with ANACAFE or FEDECOCAGUA during the selection of farmers for activities 3 or 4, in other for them to provide follow-up and support after these actions have finished. In brief, the proposal is to increase FFPr 2016's impact through the construction of multiple synergies.