



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

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**YEAR 2 REPORT: OCTOBER 2014–MARCH 2015**



**With the collaboration of**



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## List of Acronyms

<b>Acronym</b>	<b>Name</b>
AGEXPORT	Guatemala Association of Exporters
ANACAFE	National Coffee Association
CECODE	Center for Communication on Development
EMPR	Environmental Mitigation Plan and Report
FANTA III	Food and Nutrition Technical Assistance (Third)
ICTA	Instituto de Ciencia y Tecnología Agrícolas
INCAP	Institute of Nutrition of Central America and Panama
MAGA	Ministry of Agriculture and Livestock
MSPAS	Ministry of Health
NGO	Non-Governmental Organization
PCI	Project Concern International
PCRV	Peace Corps Response Volunteers
PCVR	Rural Value Chain Project
SESAN	Guatemala Food and Nutrition Security Secretariat
SAT	Superintendencia de Acción Tributaria (tax administration)
USAID	US Agency for International Development
VAT	Value-Added Tax
WHIP	USAID's Western Highlands Initiative Program

## 1. Introduction

This six-month MASFRIJOL report covers the period October 2014 to March 2015. With a focus on black beans, MASFRIJOL is designed to mobilize the expertise and experience of the Legume Innovation Lab and its network of partners to help the USAID Mission to Guatemala achieve its Feed the Future strategic development goals by improving the health and livelihood of families in rural communities. During this six-month period, MASFRIJOL achieved important results in keeping with its Year 2 Workplan and its Performance Monitoring Plan (PMP). In numbers, these results are as follows:

- **5,495** households reached with seed of improved varieties during this reporting period in partnership with WHIP implementing partners, ICTA and MSPAS. With 8,213 households that were reached in Year 1, the total number of households reached now numbers **13,708**.
- **27** WHIP municipalities covered compared to 19 in the 2014 season. In Huehuetenango alone, the largest department geographically, only Concepcion Huista was reached in 2014, but all nine WHIP municipalities are covered in 2015, 122 communities in total.
- **10,968** additional beneficiary households were identified for seed dissemination from April through June, 2015—reaching circa 99% of the project goal of 25,000 households reached in four years.
- **939** households received nutrition education (221 men and 718 women).
- **612** households were visited and trained on productivity-enhancing technologies (125 women and 487 men); examples of such technologies include pest and disease management, soil fertility improvements, and harvest and postharvest techniques.
- **109** technicians from MSPAS, ICTA, and other project partners received training on various aspects of bean production and nutrition.

Identifying more than 95 percent of the project's total target population in less than one calendar year offers several advantages for the project's future. First, it provides most of the beneficiaries with the opportunity to test the improved quality seed for at least three seasons before the project closes in 2018. Second, it enables MASFRIJOL to focus on nutrition-enhancement education through multiple visits to the beneficiary communities and customize activity plans with select bean-producing households, as needed. Third, it provides early feedback for most of MASFRIJOL's target communities, allowing the project to test and improve approaches to seed system sustainability through the Community Seed Depots.

Reaching more than 99 percent of MASFRIJOL's intended beneficiaries in record time demonstrates a substantial project achievement, which would not have been possible without the commitment of our subcontracted and collaborating partners working under the Western Highlands Initiative Program (WHIP). Special recognition is given to ICTA, MSPAS,

CECODE, and the following WHIP partners (in no particular order) who, despite their heavy workloads, have managed to make room to collaborate with MASFRIJOL technicians, leveraging time, knowledge and USAID resources:

- Save the Children (through PAISANO/PCVR/ADAM)
- Asociación Nacional del Café (ANACAFE)/PCVR/FUNCAFE
- Asociación Guatemalteca de Exportadores (AGEXPORT)/PCVR
- Proyecto de Asistencia Técnica en Alimentación y Nutrición (FANTA III)
- Catholic Relief Services (CRS)/SEGAMIL/Café Verde/ADIPO
- Project Concern International (PCI)
- Ministerio de Agricultura y Ganadería (MAGA) Rural Extension Services
- Municipal Authorities under WHIP-USAID

This report is organized in sections following the format presented in the workplan. In the next section, we provide an update on administrative activities and challenges faced during this period followed by a summary of the most outstanding programmatic results and achievements. A final section recounts some success stories in each of the target departments. While each story represents the express experiences of a specific farmer, together the stories illustrate the many common experiences that many farmers in each respective department have reported, particularly significant increases in harvests. Many, many of these farmers have expressed thanks and a deep appreciation for the MASFRIJOL project.

## **2. Administrative Results**

The administrative activities of the project have been carried out in collaboration with FUNDIT, which has ensured that funds have been managed transparently, efficiently, and according to plan. Most MASFRIJOL activities have been followed as planned, with the exception of unexpected challenges that MASFRIJOL has had to address; these challenges have been met without incurring extraordinary expenses. A list of these unexpected administrative challenges is provided, below.

### **Relocating the seed inventories**

MASFRIJOL's needed to relocate its seed inventories from ICTA Bárcenas, in the outskirts of Guatemala City, to ICTA Quetzaltenango, where the field office is located. This change was required to provide better seed storage conditions, which, at higher altitudes, are naturally cooler and preferable for seed storage, thereby preserving a high seed germination rate for the 2015 planting season.

### **Recruitment of personnel for the field office**

Recruitment of budgeted human resources was completed with the hiring of Mr. Luis Miguel

Ixcot as the administrative assistant. Mr. Ixcot holds a bachelor's degree in industrial engineering, is fluent in English, and is skilled in computer hardware and software maintenance. He was selected from a pool of more than 24 applicants. The MASFRIJOL office also hired Mr. Nery Eduardo Fuentes in the budgeted position in charge of office cleaning and periodic maintenance. The project also acquired the temporary services of two data tabulators Mrs. Alejandra Tohom and Mr. Sergio Andres Estrada, to support the Monitoring and Evaluation activities in January 2015 and early March 2015, respectively.

The amount of project fieldwork justified a request for two Peace Corps Response Volunteers (PCRV). Qualified professionals interested in applying would arrive at the project location beginning in August 2015 for a period of six to nine months.

### **Development MASFRIJOL base documents**

All but one of the base documents, the Environmental Mitigation Plan and Report (EMPR), required by USAID have been completed and approved. Completing the EMPR has required significant consultation and discussion time between the MASFRIJOL technical staff and DevTech/AGRITECH-USAID technicians. DevTech's adoption of a new model and digital platform to streamline the development of these documents, for which MASFRIJOL is one of the first projects to use it, justified the delay. MASFRIJOL staff delivered the last iteration of the activities matrix to DevTech on April 10, 2015, and is waiting to learn the estimated date when the EMPR will be completed.

### **Purchase and rental of vehicles**

MASFRIJOL has completed the process to procure four KIA trucks for use as mobile units and is waiting for the license plates to be issued by the Government of Guatemala's transportation regulatory agencies. The trucks have been fitted with all the necessary gear to work in the field (e.g., generators, screens, projectors, etc.). In the absence of these vehicles, MASFRIJOL continues to lease four 4 x 4 vehicles to advance the project's agenda. This represents added cost to the project.

### **Registration of MASFRIJOL as a local entity legally able to work in Guatemala**

In September 2014, MSU's administrative team and the USAID Guatemala Contractual and Financial Officer had a discussion with the Office of Contract and Grant Administration (CGA) regarding Guatemala's 12 percent Value Added Tax (VAT) and the need for MASFRIJOL to request tax exemptions from Guatemalan companies providing goods or services to MASFRIJOL in excess of \$100. In order to make such requests, MSU or MASFRIJOL needed to be registered in-country as a legal entity to do business in Guatemala. After discussions with two potential lawyers on the process to register as an international university in Guatemala, it was decided that it would be better to register MASFRIJOL as an NGO. The Legume Innovation Lab's Management Office authorized the initiation of the legal registration process after consultations with the MSU Office of the General Counsel evaluated

potential liabilities for MSU and how to manage them. Recommendations were received and the authorization to continue with the process was provided on February 25, 2015.

The process to register MASFRIJOL is under way at the Registro de Personas Jurídicas at the Ministry of the Interior. The step-by-step process will follow with registration of the MASFRIJOL legal representative at SAT. In recent conversations with the hired lawyer, it has been explained that it is hard to estimate how long the process can take. These offices are minimally staffed for the amount of volume they receive and, during general elections year, processes tend to be slower. A recent corruption scandal involving the Superintendencia de Accion Tributaria (SAT) has also had negative effects in the speed of these processes. MSU will continue to follow this process closely hoping the registration can be completed as soon as possible. Updates on this process will be provided to USAID Guatemala periodically.

### **3. Programmatic Results Supporting Increased Bean Productivity**

#### **A successful 2014 planting season**

For many farmers in the Guatemalan Highlands, achieving a good bean crop has not occurred in many years. Unpredictable climatic conditions, particularly involving little or poorly distributed rain, and pest and disease-ridden fields are considered the major limiting factors to successful harvests. In some areas of Totonicapán, for example, soil fertility is poor and temperatures drop below 12 degree Celsius at night. When these external factors are combined with a lack of farmer knowledge and insufficient (or no) access to inputs for improved agronomic practices, the result is limited yields. It is not uncommon for farmers to report yields from 15lb. or lower to 25–40lb per *cuerva* of 436m<sup>2</sup> (360 to 600lb. per hectare) throughout the Guatemalan Highlands. Some communities located in the five WHIP departments (Huehuetenango, Quiché, San Marcos, Quetzaltenango and Totonicapán) fair better due to richer soils that retain a larger capacity of moisture, lower altitudes, and better rainfall patterns. Farmers in these lands report yields of 40 to 120lb per *cuerva* when the bean crop is healthy.

Farmers understand that the seed source plays a considerable role in achieving higher yields, but ICTA estimates indicate that more than 95 percent of bean farmers in the region lack access to improved varieties. For the 5,495 farmers accounted for by MASFRIJOL and the more than 8,013 reached during the 2014 season (May–September), the story is now different. These 13,708 farmers planted MASFRIJOL-provided bush type varieties for the first time, most of them obtaining surprisingly positive results, ranging from 15 to 100 percent increases over their neighbors who planted locally sourced seed. Illustrations of these results are provided later in this report. Cases where productivity gains exceeded 100 percent are not rare, but more information is being collected, however, to assess the factors that contributed to such yield increases in addition to access to high quality seed of improved varieties.

Even if it is true that a bean crop's success cannot be solely linked to a change in seed, MASFRIJOL beneficiaries are convinced that the use of quality seed of improved varieties has been the most important factor in their successful 2014 season. Farmers had become used to seed of inferior quality (poor germination quality, presence of seed borne diseases), often

untraceable in origin, and assumed that bean production was simply a difficult and risky crop. Surprised by significantly higher yields, farmers now recognize the superiority of MASFRIJOL-disseminated varieties from the moment of germination, with successful germination rates reaching 90-95 percent or greater. As farmers have realized the technological gift this seed represents, they have willingly turned their attention to MASFRIJOL technicians and partners to learn and to adopt other improved management practices (mainly focused on weeding and fertilization) within their abilities and budgets.

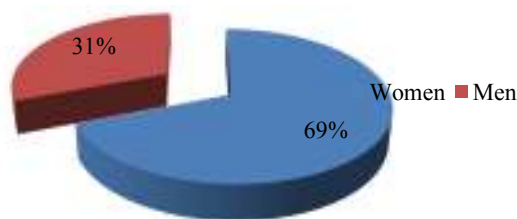
Because of the difficulty in collecting harvest information from multiple partners across thousands of beneficiaries in a short amount of time, the final harvest results for year 1 are not yet available. Nevertheless, the information collected so far provides evidence of astounding results, some of which we illustrate in the testimonials offered in the section titled “Success Stories.”

In terms of beneficiaries of the 2014 season, MASFRIJOL has collected 6,704 seed forms and tabulated 5,186 (77%). As we continue to enter more information into our database, we consider the available is sufficient to obtain preliminary information about our beneficiary base. This information is important in our decision making process to select areas of intervention where the mobile units will reach the highest number of beneficiaries and the most impact. An interpretation of this information is provided below.

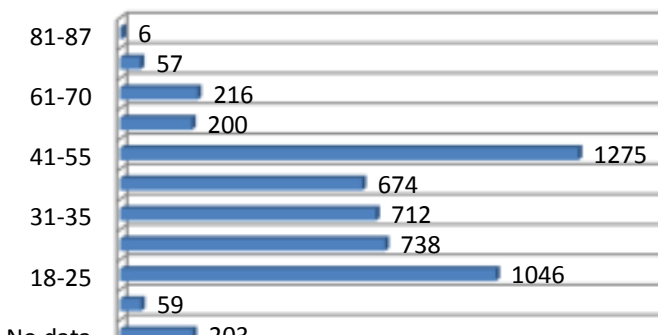
As can be appreciated in Graph 1, MASFRIJOL’s direct beneficiaries are two thirds women. This attests to the sound gender focus of the approach indicating that women play a direct role in the production of beans, particularly in fields that are close to the household.

In graph 2 below it can be appreciated that approximately 50%

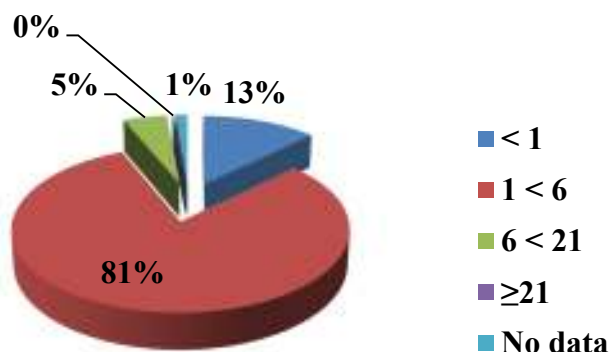
**Graph 1. Gender of MASFRIJOL Beneficiaries 2014 (n=5186)**



**Graph 2. Age (years) of MASFRIJOL beneficiaries during the 2014 season (n=5186)**



**Graph 3. Land available for beans in cuerdas (n=5186)**

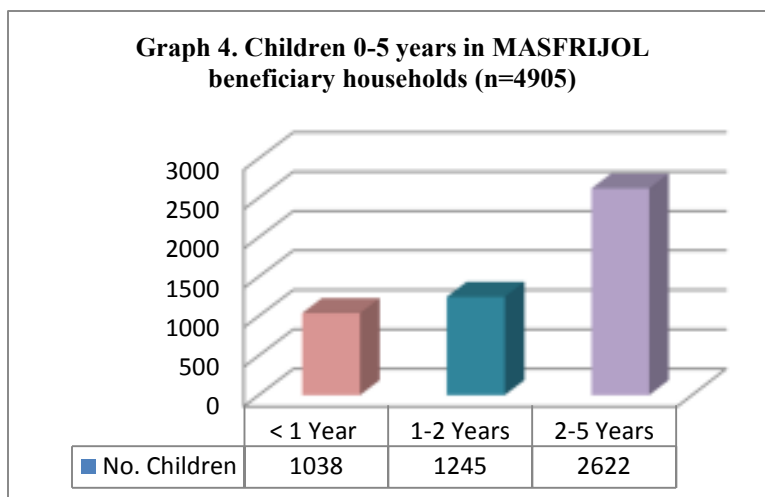




of the target beneficiaries are under 35 years of age. This is important since any investments in training and community seed depots will easily reach young adults (particularly those in the 18-25 year bracket).

As it has been discussed with WHIP partners, MASFRIJOL wants to make a difference in the nutritional status of the household, particularly children under 5 years of age,

pregnant and lactating women. It is positively surprising for a total of 5,186 beneficiaries there are 4905 children of five years old or younger (roughly one child in this target age per beneficiary).



### Seed dissemination efforts from Oct 2014-March 215

As has been illustrated in the previous section, facilitating access to improved varieties of beans is one of the cornerstones of the MASFRIJOL project. Long-validated seed varieties, such as ICTA Hunapú, ICTA Altense, and ICTA Super Chiva have made a difference during the 2014 season (May–October 2014), with partners successfully reaching more than 8,000 households. Although not all farmers succeeded in harvesting a superior crop with the five lb. of improved seed provided by the project, all partners have reported significant increases in productivity across the five departments. It is not surprising to MASFRIJOL’s management and technical teams that the word is out that these improved varieties have led to a greater-than-expected demand for this technology.

With MASFRIJOL ready to reach an even larger number of beneficiaries in 2015 than in 2014 in the five target departments, coordination with partners to establish the lists and locations of new beneficiaries began in early October 2014. This work has resulted in the identification of more than 20,000 new households interested in acquiring five lb. of the recommended improved varieties. The increased demand for this technology reflects in large part the enthusiasm of partners and farmers who have seen the positive difference in yields from this technology. Unfortunately, MASFRIJOL has only enough seed for a total of 14,663 households interested in ICTA Altense, ICTA Hunapú, and ICTA Super Chiva in locations above 1,000 m, and sufficient seed for 1,800 households interested in planting ICTA Ligero in altitudes lower than 1,000 m. In total, MASFRIJOL could reach 16,463 households in 2015 with enough seed for one *cuerda* per household (more area if farmers increase the recommended planting distance).

**Table 1** shows the distribution of seed bags given to families through March 31, 2015, for each department during the period covered by this report (October 2014 to March 2015), a total of 5,495 households.

**Table 1. Seed Dissemination from October 2014 to March 2015**

Beneficiary Households Identified by Partners in Huehuetenango						
Date	MASFRIJOL's Partners	Beneficiary Municipality	Variety			
			Hunapú	Altense	Superchiva	Total
<b>October 2014–March 2015</b>						
12/12/2014	MAGA	San Antonio Huista	150	100	150	400
1/20/2015	PCI	Huehuetenango	245	40	0	285
2/2/2015	MAGA-MSPAS	Todo Santos Cuchumatanes	158	0	0	158
2/9/2015	MAGA	Todo Santos, Jacaltenango	52	68	62	182
3/23/2015	MSPAS	Chalhuitz, Tzuna, Tzunhitz, Yichoch, Yula, Cabic, Santiago Petatan.	0	66	71	137
<b>Sub Total Huehuetenango</b>			<b>605</b>	<b>274</b>	<b>283</b>	<b>1162</b>
Beneficiary Households Identified by Partners in San Marcos						
Date	MASFRIJOL and Partners	Beneficiary Municipality	Variety			
			Hunapú	Altense	Superchiva	Total
<b>October 2014–March 2015</b>						
1/9/2015	Municipality San Miguel Ixtahuacan	San Miguel Ixtahuacan	200	300	200	700
3/5/2015		San Miguel Ixtahuacan	0	200	50	250
3/9/2015	MSPAS	Concepcion Tutuapa	701	0	0	701
3/12/2015		Nuevo Progreso	500	0	0	500
3/23/2015		San Lorenzo	0	405	229	634
<b>Sub Total San Marcos</b>			<b>1401</b>	<b>905</b>	<b>479</b>	<b>2785</b>
Beneficiary Households Identified by Partners in Quiché						
Date	MASFRIJOL and Partners	Beneficiary Municipality	Variety			
			Hunapú	Altense	Superchiva	Total
<b>October 2014–March 2015</b>						
1/28/2015	MAGA	Sacapulas	360	0	0	360
2/2/2015	MSPAS	Sacapules, Cunén, Sacualpa.	100	0	0	100
3/11/2015	RVCP–SAVE THE CHILDREN	Sacualpa, Chichicastenango, Nebaj, Cajul, Uspantan y Cunén	49	64	565	678
3/11/2015	MSPAS	Santa Maria Cunén	0	0	30	30
3/11/2015	PAISANO–Save the Children	Nebaj, Cunén	20	120	40	180
3/23/2015	MSPAS	Cunén	0	0	100	100
3/23/2015		Zacualpa	0	0	100	100
<b>Sub Total Quiché</b>			<b>529</b>	<b>184</b>	<b>835</b>	<b>1548</b>
<b>Grand Total</b>			<b>2535</b>	<b>1363</b>	<b>1597</b>	<b>5495</b>

\* Planting season in Totonicapán and Quetzaltenango starts until May, 2015. That is why no activity is reported for those departments in this table.

Because MASFRIJOL had to make decisions on which communities to favor, the selection criteria included communities with the best conditions for bean production that were

supported by partners with a demonstrated commitment to work with MASFRIJOL, as per MASFRIJOL’s experience in year 1. Dissemination efforts began officially in December 2014, reaching communities with access to irrigation and areas with early rainfall.

### **Validating the first potential new varieties of climbing beans**

In 2015 MASFRIJOL plans to reach 150 households willing to establish test plots under the *milpa* system with two varieties of the black bean bolonillo climbing type developed by ICTA and North Dakota State University under USAID’s Legume Innovation Lab’s centrally funded projects. Since households willing to establish the bolonillo test plots may be already listed among those planting high-altitude bush types, they are not counted at this time as additional beneficiaries. Once the results of these test plots are processed, ICTA will decide if it’s time to release these materials in 2016 as new varieties for the region.

### **Scaling up made possible by MASFRIJOL technologies**

As originally proposed in the MASFRIJOL technical application, reaching farmers with such improved technologies as seed of improved seed varieties demystifies USAID’s scaling up work. Completed within a multipartner effort, this MASFRIJOL-led project is already returning high dividends. In just a calendar year since its inception, the project has already reached more than 8,000 households from April to September 2014 and more than 5,400 from October 2014 to March 2015; further, the project is poised to reach approximately 11,000 households from April to September 2015 (see tables 1 and 2), bringing the total number of households reached to 24,676, or roughly 99 percent of the project goal of 25,000 households over the project period. MASFRIJOL’s remarkable achievements bespeak well of its close coordination with public sector and WHIP partners in the field.

**Table 2. Scaling up MASFRIJOL technology dissemination**

<b>Planting Season/Reporting Period</b>	<b>Beneficiary Households</b>	<b>% of total goal (25,000 households)</b>
April-September 2014	8213	33
October 2014-March 2015	5495	22
April-September 2015	10968	44
<b>Total end of Year 2</b>	<b>24676</b>	<b>99</b>

While this estimation assumes that every family that receives a bag of improved seed will plant it, the experience and lessons learned in 2014 (as reported in the October 31<sup>st</sup>, 2014 progress report<sup>1</sup>) may not reflect this assumption. Nonetheless, even estimating that eight to 10 of the target beneficiaries could not plant the seed for any reason (climatic, timing, or otherwise), the cumulative result for 2015 would still be at or greater than 90 percent of the project goal in just two planting seasons. Regardless of the exact precise number of beneficiaries reached, the project’s seed dissemination efforts are already creating important and necessary open doors among the targeted communities’ beneficiaries and authorities for the next phase of the project, which involves the mobile units providing nutrition education,

<sup>1</sup> An estimated 350 families did not plant the MASFRIJOL seed due to one or more of the following factors: (1) received the seed too late in the season; (2) were affected by a drought in the beginning of the rainy season; (3) were ill-influenced by rumors that the MASFRIJOL seed was transgenic.

disseminating additional technologies, and consolidating Community Seed Depots as the legacy of MASFRIJOL for seed systems and improved nutrition sustainability.

#### **4. Programmatic Results Enhancing the Nutritional Quality of Diets**

Efforts under this programmatic area have focused on developing curricular packages of videos and teaching module scripts with different dynamic activities for dissemination through the mobile units. The cross-training of personnel from MASFRIJOL, ICTA, MSPAS, and CECODE who will approach groups of farmers in the field for a variety of activities (e.g., mobile unit visits, nutrition fairs, etc.) has been significant in this area of activity. Some specific results during this reporting period are offered below.

- 109 technicians (33 women and 76 men) were cross-trained on agronomic and nutrition education themes. The training sessions were held in the five departments targeted by the project. The vast majority of the trainees came from MSPAS. Instructors for these events represented personnel from ICTA, MASFRIJOL, CECODE, and FANTA III. FANTA III will continue to participate in such events who have years of experience in certificate programs on health and nutrition. FANTA materials are provided to MASFRIJOL free-of-charge. The training as a whole has been well rated by participants. The agronomists were surprisingly interested in maternal and child nutrition. They were pleased with the information and tasting sessions to make thick complementary porridges for infants over 6 months from corn meal and mashed beans. This is a good improvement over the corn beverage Atole that is typically fed to infants.
- MASFRIJOL held its official project launch on March 5, 2015. The focus of the launch was to illustrate how the mobile units will work in remote communities—just a few steps from farmers’ doors. The event was attended by farmers, project partners, and USAID representatives.
- The first MASFRIJOL Bean and Nutrition Fair was in the municipality of San Miguel Ixtahuacán, department of San Marcos, on March 11, 2015. MASFRIJOL led the organization with a number of partners, among them the Municipality of San Miguel Ixtahuacán, FUNCAFE, ANACAFE, MSPAS, CECODE, MAGA, and SESAN. Although the fair was attended by more than 750 farmers, MASFRIJOL registered 157 women and 105 men with important contact information for future contact. MASFRIJOL used this opportunity to validate certain approaches to the organization of such events and to calibrate the capacity of the technical team to handle large groups while promoting technologies and practices on bean productivity and enhanced nutrition.
- Technical assistance provided in the field: during this six-month period, MASFRIJOL field technicians made more than 75 technical assistance visits to project beneficiaries,

covering concerns related to agronomy and enhanced nutrition practices. A total of 612 heads of household attended (487 women and 125 men) these field visits.

- Specific meetings to discuss nutrition education were also held during this period on such topics as the nutritional value of beans, the importance of a diversified diet, concepts and examples of chronic and acute malnutrition and how to identify it and address it, and complementary feeding and bean recipes for children under 5 years of age. A total of 939 persons attended — 718 were women and 221 men. Among the 939 attendees, 262 participated actively in bean recipe discussions and development.
- MASFRIJOL and CECODE's development of teaching materials for mobile units: Progress has been made in identifying existing materials developed by MSPAS and FANTA III for use by mobile units in the field. CECODE has also contributed two draft videos for which feedback has been delivered; revised versions are expected at the end of April. Teaching scripts, including games, dramas, and other culturally appropriate teaching tools are being validated by CECODE through a team effort with MASFRIJOL's technicians.

## 5. Challenges Faced and Lessons Learned

**Delay in acquiring mobile units:** Despite the satisfactory results attained to date, a considerable gap in MASFRIJOL's daily work is the absence of the mobile units. Compiling the necessary documentation to purchase these goods under tax-exempt status and the time it has taken to process the circulation plates have provided sufficient reasons to consider renting similar equipment instead of purchasing it for future projects. This is an expense that was not anticipated in the budget, but it has been necessary to attain the results reported. At this point, it is not possible to forecast when the plates will be ready.

### **Responding to the demand for seed of improved varieties**

As has been discussed above, the combined effort of MASFRIJOL personnel and partners is establishing the project for success. It is unfortunate, however, that we cannot respond to the demand of 20,000 families identified by public sector and WHIP partners during Year 2. The project hopes to engage in additional seed multiplication before Year 3, focusing on nutrition education and the dissemination of other technologies and agricultural practices in the meantime.

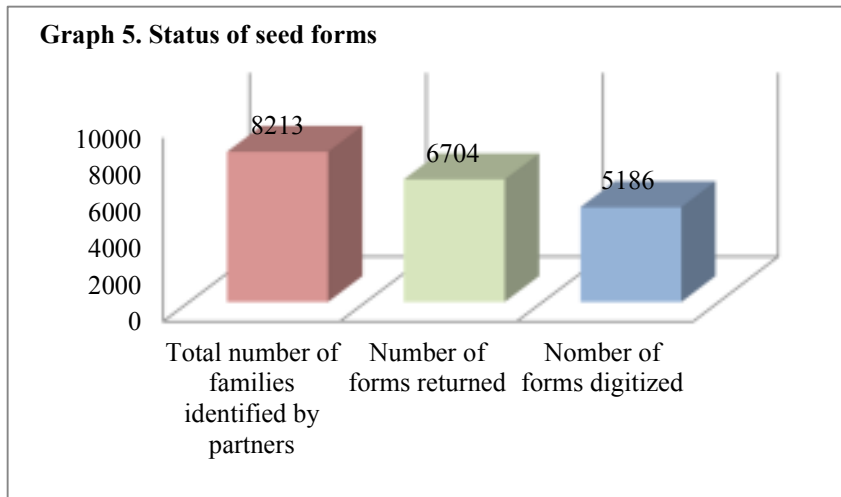
### **Difficulties in gathering data on beneficiaries**

MASFRIJOL constantly praises the engagement and collaboration of WHIP partners in identifying and reaching beneficiaries of MASFRIJOL-promoted technologies and practices. This collaboration is poised to increase and be further consolidated, from the field personnel to the highest management levels. We have proved MASFRIJOL complements these groups' activities in the field and farmers now identify the project as highly beneficial. Despite these fruitful dynamics, however, MASFRIJOL personnel

struggle to get WHIP partners to return the necessary monitoring and evaluation (M&E) forms appropriately filled out. As a result, the collection of the forms for the 2014 planting season is incomplete (see graph 1 below) and the digitizing and analysis is also late.

When approached for a solution, partners promise to send the filled forms by a certain date, but these promises are rarely met. As a result, our data processing is suffering major delays, requiring that something else be done. We understand our partners' workloads are

considerable and that it takes time and effort to complete these forms; however, knowing that this situation may not change in the near future, MASFRIJOL will acquire the temporary services of midlevel technicians as enumerators in



charge of supporting the M&E activities. This is a partial, but necessary, solution to collect, tabulate, and process M&E data and return to the villages for short surveys on random sample populations as described in the MASFRIJOL PMP.

Because of the lack of M&E forms from our WHIP partners, to date we can only offer from our database a partial analysis and approximate proportions (based on n=5186 tabulated to date) on who the beneficiaries are, their gender, their age, and the proportion of varieties planted. See graph 2, below.

## Annex

### Success Stories

#### Huehuetenango

In the community of Yulá, Concepción Huista, Huehuetenango, Mr. Benito Pablo sowed 3.5 lb. of ICTA Altense per  *cuerda*. The seed was provided by MASFRIJOL during a training event to explain the specific management practices needed for successful production of bush beans. Mr. Pablo explained that he had only grown climbing beans but was willing to try ICTA Altense in a mono-cropping system. It did not take long before Mr. Pablo appreciated the vigor of the ICTA Altense variety and noticed how fast it developed from blooming to pod filling. Most of all, he was impressed with the yield he ultimately harvested, reporting 150 lb. per  *cuerda* (circa 1,560 kg per hectare or 33.5 quintals).

Mr. Pablo shared that it was encouraging for him to have neighbors visiting his plot to see and to praise the health and development of his bean crop. As he shared the news of his final yield, a few neighbors rushed to his house to buy 15 lb to plant in 2015. Mr. Pablo has gained much recognition in the community because of his experience with ICTA Altense. What he values most, however, is his ability to save most of his crop for home consumption and enough seed to expand the area to be planted during the next (2015) season.



Comunidad Yulá, Concepción Huista, Huehuetenango.

#### Quiché

In the municipality of Santa Maria Cunén, Aldea Rio Blanco, Mrs. Marta Pérez Pú planted ICTA Altense later in the season (around July 23, 2014 instead of in early May), due to a prolonged dry spell. Despite all the risks she took, Mrs. Perez Pú believes the results were fairly good and is pleased with a harvest of 125 lbs per  *cuerda*, which exceeded the yields of her neighbors who, on average, harvested 75 lb./ *cuerda* (in a few cases 100lb./ *cuerda*). Mrs. Pérez has been grateful to the MASFRIJOL project and its partners for providing her with such a highly productive bean seed. She has shared part of her harvest with family members who witnessed the quality of the crop despite the climatic stress of a prolonged dry spell during the usual rainy season. At the time of this report, it was confirmed that Mrs. Pérez

planted 1.5  *cuerdas* on March 5, 2015, with seed from her 2014 harvest. It was also confirmed that Mrs. Pérez provided her daughter-in-law, Mrs. Andrea Ordoñez, with ICTA Altense seed to plant 1.5  *cuerdas* in the neighboring community of La Barranca, in the same municipality. Mrs. Ordoñez has also planted one  *cuerda* with ICTA Hunapú and recently accessed enough ICTA Super Chiva from



A recent picture of Mrs. Marta Pérez and daughter-in-law Andrea Ordoñez in Aldea Rio Blanco, Santa Maria Cunén, Quiché, Guatemala.

another MASFRIJOL beneficiary to plant a small plot in the coming weeks so that she and her relatives can observe the differences among the three varieties.

The follow seed dissemination pattern observed in the case of Mrs. Marta Pérez Pú is the ideal response sought by MASFRIJOL. In this example, the variety was strongly liked by a grower for its features and yield capacity and, consequently, passed on to neighbors (for a price) and from one family member to another, many of whom had witnessed firsthand the improved crop growth and appreciated the genetic material that helped make it possible. MASFRIJOL will follow the cases of Mrs. Marta Perez and Mrs. Andrea Ordoñez very closely as they become experts in ICTA Altense, ICTA Hunapú, and ICTA Super Chiva in 2015. MASFRIJOL is considering investing with these women in establishing a Community Seed Depot to continue producing and disseminating bush type, disease-free seed of improved varieties on a larger scale.

### Quetzaltenango

Mrs. Juana Vasquez is from the community of Agua Blanca, municipality of San Juan Ostuncalco. Her case is particularly interesting to MASFRIJOL because she reports that she has been able to produce 200 lb. per *cuerda* with traditional bean seed. She is the only person MASFRIJOL staff has heard of, to date, who has been able to achieve such yields with creole materials. The only current explanation for such high yields compared to those in other areas of the Guatemalan Highlands is the agroclimatic environment of Agua Blanca, which has rich, deep soils used for intensive horticulture, particularly for producing potatoes.

Under this agricultural production system, Mrs. Vasquez provided MASFRIJOL with an opportunity to test the yield of ICTA Altense obtained through PAISANO, managed by Save the Children. Mrs. Vasquez recounts that she was excited to see the germination and vigor of the plant, which was far more superior to what she had seen with creole seed in its early stages. Unfortunately, the harvest was affected by a long dry period when the plant's moisture requirements were greatest and a persistent rodent problem (armadillo) that led to the loss of many plants. Despite these unfavorable factors, however, Mrs. Vasquez managed to harvest 100 lb. of beans and reported having eaten half the pods as green beans with her family. With this generous production despite adverse conditions, Mr. Vasquez is convinced that ICTA Altense is an above average variety compared to that planted by her neighbors. Further, Mrs. Vasquez is determined to prove that ICTA Altense can beat her previous yield records. To that end, she saved 10 lb. in October of 2014 to plant in 2015. She has already planted the first four lb. in February 2015 following all the recommendations provided by MASFRIJOL and PAISANO technicians.



Mrs. Vásquez and her family in Aldea Agua Blanca, San Juan Ostuncalco, Quetzaltenango, Guatemala.



In regard to the sensory qualities of ICTA Altense, it is noteworthy that Mrs. Vasquez and her family reported that they liked the taste of its green pods and the taste and texture of the dry grain. They want to eat ICTA Altense every day at their table, so Mrs. Vasquez hopes to produce as much as possible to consume throughout the year. While MASFRIJOL is not predominantly concerned with the Vasquez family's food preferences, the project has recommended that they expand production if they plan to continue enjoying the ICTA Altense as fresh green beans so that they are also able to store sufficient dry beans for the year.

### **Tonicapán**

Mr. Miguel Tojín Imul, another beneficiary reached in 2014 through MASFRIJOL's partnership with PAISANO/Save the Children, lives in San Luis Sibilá, municipality of Santa Lucia la Reforma. In 2014 he received five pounds ICTA Hunapú. Mr. Tojín did not follow the recommended planting densities provided by MASFRIJOL but rather his own preferences, using additional space between plants and rows to cover his three *cuerdas* of land in total. He explained that he had planted ICTA Hunapú many years ago when he had access to this seed through ICTA and he knew about the vigor and size of the plant at full maturity. He believed that wider spacing would be favorable for the crop.



**Mr. Tojín's field with members of his family in Community of San Luis Sibilá, Santa Lucia La Reforma, Tonicapán, Guatemala.**

Mr. Tojín reported to MASFRIJOL an astounding harvest of 300 lb per *cuerdas*. He stated that he barely plants any creole materials because yields are extremely low regardless of what he does. He has found ICTA Hunapú, however, to be a strong yielder and has shared his knowledge with other farmers in his community, who could hardly believe what he reported about the variety until they saw his field. Mr. Tojín has decided to share part of his harvest with his close neighbors so that they, too, can try Hunapú in their respective fields.

Mr. Tojin is a leader in the community of San Luis Sibilá and has demonstrated a penchant for understanding how varieties are developed and how they differ from one another. Unfortunately, Mr. Tojin has not had the means to save seed in good condition from one year to the next; years ago, his limited resources led him to consume the ICTA Hunapú seed he had originally saved for the next year's planting. MASFRIJOL has explained to Mr. Tojin that ICTA Altense is a sister variety of ICTA Hunapú that he could try that in 2015; he has accepted this offer. Because of his position in the community and his experience with beans, he is considered a potential candidate for being a Community Seed Depot owner/manager under MASFRIJOL.

### **San Marcos**

Mr. Tomas López lives in the village of Loma del Carmen, municipality of Tajamulco. For many years he and his family have farmed their land with corn, potatoes, and beans. Mr. López reflected on how, year after year, he became disenchanted with the declining yields of his beans, which forced him to meet his family's bean needs in the market. Corn and beans are the most important

crops for Mr. López, so when he heard about MASFRIJOL he saw an opportunity to learn what he could do to produce his own beans with greater success. In just one season, Mr. López was able to achieve a dramatically improved crop performance which, in just half a *cuerda*, yielded 100 lb. Mr. López had planted ICTA Super Chiva, which achieved a 400 percent increase over the landraces he and his neighbors were planting in Loma del Carmen.



**Mr. Tomás López field of ICTA Súper Chiva, Municipality of Tajumulco, San Marcos, Guatemala.**

For the López family and many other beneficiary households in San Marcos, achieving this yield level makes it possible to consume more beans at home without needing to purchase from the market. In addition to improving his family's food security with nutritious beans, Mr. López has also acquired seed security by saving enough seed to expand his production in 2015. As in the case of Mr. López, MASFRIJOL is convincing thousands of farmers in the Guatemalan Highlands that beans are a worthwhile crop. Mr. López has expressed his appreciation to MASFRIJOL and is asking where he can buy more ICTA Super Chiva in case he runs out. MASFRIJOL is satisfied to see the difference five lb. of improved, disease-free, high quality seed can make in a household and looks forward to expanding seed dissemination in 2015 with a number of partners.