



## Annual Report

**Agreement Number:** AID-OFDA-G-12-00122

**Project Title:** Seeds, Training and Awareness Raising for Cassava-producing Hosts (STARCH) Project

**Reporting Period:** April 23 – September 30, 2012

**Submission Date:** December 31<sup>st</sup>, 2012

**Report Submitted to:** USAID OFDA

**Program Goal:** Increased Resilience of refugee-burdened host households in Maryland and River Gee Counties, Liberia

**Strategic Objective:** Increase cassava productivity for 3,000 host households in Maryland and River Gee Counties.

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### A. Project Background and Introduction

The latest round of the Ivorian conflict that ensued after disputed presidential elections in November 2010 forced tens of thousands of refugees to flee into Liberia. The arrival of refugees in the southeast in March 2011 coincided with the period preceding the normal 'hungry season'. The presence of refugees meant that hosts had to immediately activate coping mechanisms as they and the refugees began to consume household food reserves at a much faster rate than usual. Low-yielding varieties and high on-farm losses prevented households (HH) from maximizing their cassava production to improve both food security and income generation and to meet the additional burdens of hosting refugees.

In partnership with Caritas Cape Palmas, CRS Liberia proposed the Seeds, Training and Awareness Raising for Cassava-producing Hosts (STARCH) project to increase the capacity of 3,000 refugee-burdened host households to improve their resilience to meet the continued needs of Ivorian refugees in Maryland and River Gee Counties and better prepare for potential future refugee influxes into Liberia. The project proposes to increase household cassava production through the provision of selected tools, disease-resistant and high-yielding cassava varieties, and improved pest control techniques. Through CRS' seed vouchers and fairs (SV&F) and Farm Field School (FFS) methodology, farmers will access planting materials of improved varieties to plant in their fields and compare with local varieties. Targeted households will also receive technical assistance in improved planting, intercropping, crop protection and harvesting techniques.

## **B. Project Activities and Achievements**

The goal of the STARCH project is to increase food availability and resilience of refugee-burdened host households in Maryland and River Gee Counties. The project has one strategic objective of increasing cassava productivity for 3,000 host households in Maryland and River Gee Counties.

There are two primary elements to accomplish the objective; a) providing planting materials, tools and trap wires through community seed vouchers and fairs, and b) ensuring that all beneficiaries participate in farmer field schools to learn improved production and pest management techniques. These elements will to be achieved through the following activities: 1) Project start-up; 2) Baseline Survey; 3) Beneficiary Registration; 4) Seed Vouchers and Fairs; and 5) Farm Field Schools

### **Project Start-up**

The original project start date was April 23, 2012. Due to a delay in the project approval process the project officially did not start until after May 18, 2012 when OFDA approved CRS' request for a pre-financing letter (PAL) of 100,000USD to ensure that expenditure made after the start date of April 23 would be allowed expenses for the project. A second PAL for 100,000USD was approved on August 23 and on August 28 the signed project agreement was received.

To facilitate startup, CRS engaged former CRS employee and consultant Ray Studer to work with Caritas to initiate project activities. Mr. Studer arrived on June 3 and immediately started work on June 6 in Maryland County. On July 16<sup>th</sup> Sylvain Hakizimana from the CRS Rwanda Country Program arrived to replace Mr. Studer until the Project Manager Musa Buyinza arrived in September. Following agency policy and procedures, CRS advertised the following positions: two STARCH Project Officers (PO), one Administration/Finance Officer, a Driver-Mechanic and an Office Custodian. All positions were filled.

An orientation session was held on June 28<sup>th</sup> with Caritas, CRS, and MOA field staff in River Gee and Maryland Counties. The orientation session included eight staff from the MOA and two staff from Caritas and CRS, thus a total of 12 persons. The orientation included an overview of the project, determining beneficiary selection criteria and who should be involved in the beneficiary registration process. Philip Wreh, Assistant Director of Caritas Cape Palmas, and Ray Studer, Acting Program Manager of CRS jointly planned the session with the support of P. Mike Jurry, Director of Caritas Cape Palmas.

### **Baseline survey**

After a competitive bidding process, CRS Contracted African Development Associates (ADEAS) to undertake a baseline study that began on July 14 in Maryland and River Gee Counties. A sample of ten communities from five districts were selected for the survey. Four communities located in Maryland and six in River Gee were selected through systematic random sampling. A total of 600 households were sampled in these communities. Some of the key findings from the survey included:

- 536 out of 600 (89%) of the sampled households hosted refugees and 148 (36%) are still hosting refugees;

- 458 out of 600 (76%) of the households cultivated cassava and of them 412 (90%) families earned income from Cassava ranging from 7 – 97USD;
- 92% of cassava producing households obtained cassava cuttings locally and 72% bought them;
- 71% of the households mainly produce the local cassava varieties such as Koko, Bassa girl, Ziblo; followed by the improved cassava varieties such as Carica, Bonua and EEC at 17%; and the other 12% did not know which variety they were planting.
- 79% of the households sampled planted cassava as a sole crop and 9% of the households planted mixed crops (for example they planted cassava with rice).
- 51% of the households used fencing to protect cassava against pests like rodents and 41% did nothing to protect their cassava.
- 90% of the households did not apply any disease control measures.
- 456 out of the 600 HH (76% farmers) applied at least one good farming technique like timely planting, pest control, weeding etc. Only 18% farmers used all three farming techniques and only 9% farmers used improved planting materials and three good agronomic practices mentioned above.
- Five months (March through July) are the hungry months and cassava crop normally take 6 – 12 months to mature.

From the Baseline Survey one can conclude that limited improved farming techniques, coupled with threats from pests and diseases that destroy crops were the major challenges faced by cassava producing households. These challenges were therefore seen as potential factors contributing to the prevalence of food insecurity in the two counties.

It is expected that the proposed interventions of this project will increase food security for the targeted beneficiaries by improving cassava-farming techniques and increasing the beneficiaries' knowledge on pest control and disease management.

### **Beneficiary Registration**

A team of 18 completed the beneficiary registration process. The team included staff from CRS, Caritas and the Ministry of Agriculture in the districts of Tuobo, Webbo and Sarbo in River Gee County as well as Harper and Pleebo in Maryland County. Since two thirds of the refugees were in Maryland and one third in River Gee, 1999 beneficiaries were chosen from the former and 1000 from the latter. The criterion that was used for registration of beneficiaries is outlined below:

- a) Permanent resident of the community (refugees not eligible)
- b) Either growing cassava or has definite plans to do so within next two months
- c) Prioritizing families hosting more refugees for longer period
- d) Prioritizing female or child headed households
- e) Prioritizing families with more children below 10 years of age
- f) Prioritizing households with special needs that make the family more vulnerable (elderly, handicapped and / or chronically ill members)

To increase the authenticity of the information captured, a verification exercise was completed prior to the SV&Fs. The verification exercise included CRS staff, Caritas project staff and the Ministry of Agriculture (MoA) working hand in hand with the local leaders. After the verification process was completed, the number of beneficiaries in Maryland County reduced from 2,000 to 1,999 (See Table 1).

**Table 1: Registered Beneficiaries**

		Maryland	River Gee	Overall
No. Registered	Male	655	319	974
	Female	1344	681	2025
	Total	1999	1000	2999
		<b>Average</b>		
Weighted average age		40.0	40.4	40.1
Weighted average HH size		6.6	6.9	6.7
Current cassava cultivated (acres)		0.8	0.5	0.7
Planned cassava (acres)		1.2	0.9	1.1

**Seed Vouchers and Fairs (SV&Fs)**

On 7<sup>th</sup> August, one workshop was conducted on the SV&F methodology where a total of 12 participants attended the workshop from CRS, Caritas and Ministry of Agriculture. Topics covered included: 1) Orientation of the SV&F methodology 2) Organizing and facilitating SV&F 3) Criteria for selecting SV&F sites, 3) Monitoring and evaluation tools. These were done with guidance from the CRS SV&F manual plus materials from the Great Lakes Cassava Initiative (GLCI).

A total of 2999 sets of vouchers with a value of 26USD each were distributed to the various beneficiaries that would participate in SV&Fs. Each set of vouchers included: 125 stems of cassava cuttings approximately one (1) meter each, a hoe, a cutlass, and 10 meters of trap wire. These cassava cuttings are sufficient to make 500 cuttings of desired length required for planting. The cassava cuttings were purchased from pre-selected vendors in the community while the tools were from pre-selected traders in the neighbouring towns. The main cassava varieties



Figure 1: A farmer exchanges a voucher for a cutlass during the SV&F activity



Figure 2: Farmers carry home their cuttings from a vendor's field

received by the farmers were Bonua and Koko. In Kronoken, they had Asheke instead of Koko and in Harper they had all the three varieties.

From 20<sup>th</sup> – 30<sup>th</sup> August and 27<sup>th</sup> August – 3<sup>rd</sup> September, CRS together with its partner Caritas and the County Agriculture Department successfully facilitated 9 SV&Fs in the River Gee and Maryland Counties. Out of the targeted 2999 beneficiaries 2935 (97.9%) redeemed their vouchers at the SV&F.

**Table 2: Items received by the beneficiaries**

SV&F Site	No. Of stems	HH targeted	HH served with Cassava	Tools Distributed		
				Hoe	Cutlass	Trap wire (10m)
<b>River Gee</b>						
Sweeken	17875	144	144	142	142	140
River Gbeh	30625	252	250	235	235	236
Gbawelegen	33250	276	273	270	272	256
Kronoken	37750	328	328	320	320	308
<b>Maryland</b>						
Yookudi	27875	225	223	223	223	223
Libsuco	84625	699	677	677	677	677
Mission Town	32750	275	262	262	262	257
Whole Graway	66375	544	531	531	531	531
Harper	30875	256	247	247	247	247
<b>Total</b>	<b>362000</b>	<b>2999</b>	<b>2935</b>	<b>2907</b>	<b>2909</b>	<b>2875</b>

After receiving the cuttings, some of the farmers planted immediately, while other farmers planted in the next quarter. The reason why some farmers waited to plant their crops was due to the fact the fairs were held in the rainy season, so many of the beneficiaries were unable to clear and burn their fields in preparation for planting and as such, they were waiting for the rains to subside so that they could embark on the land preparation process. This mainly happened in Maryland County where farmers have to prepare new fields for planting cassava. In River Gee, farmers normally intercrop cassava with rice and they planted their cassava in the already existing rice field. The normal planting cycle for cassava is December through March.



Figure 3: Farmers clearing their land in preparation for planting their cassava

**Farm Field Schools**

A workshop on the FFS methodology was conducted on August 7<sup>th</sup> with 12 participants from CRS, Caritas and Ministries of Agriculture from Maryland and River Gee Counties. The following topics were covered: 1) FFS Methodology, 2) The importance of the methodology, 3) The cassava FFS curriculum, 4) FFS teaching aids, 5) Understanding group dynamics, 6) Establishing and running FFS, 7) Field design and layout and 8) Selection of disease free planting materials.

To prepare for the FFS activities, a protocol was developed and is being implemented based on three major topics:

- Comparison between traditional and improved planting techniques of cassava such as the line planting versus the random spacing; flat bed versus mound or ridge; optimum length of cuttings/number of nodes; timely weeding; and soil and water conservation.



- Farmers will compare the performance of high yielding improved variety *Bonua* to the local variety *Koko*.
- Comparison between sole crops of cassava with other crops intercropped with cassava.

On September 21<sup>st</sup>, 17 lead farmers (5 female) from 17 selected communities in the three districts of Tuobo, Sarbo and Webbo in River Gee County were trained on FFS methodologies. During the training, CRS used participatory approaches such as group discussions, demonstrations, questions and answers. With guidance from Caritas and CRS staff, the trainees were to go back to their respective communities and train the other members from the 50 groups as well. Each group will comprise 15 – 25 farmers. During the same period, 50 FFS demonstration plots were cleared.



Figure 4: Lead farmers planting cassava in their traditional way



Figure 5: Lead farmers making ridges for planting cassava (Right)

Lead Farmers started farm field school sessions in their respective communities by transferring the skills they acquired to the other members within their groups. This was accomplished with technical backstopping from the Caritas and CRS project officers who monitor the appropriateness of the skills transferred using an M&E tool developed to track levels of adoption.

### **Cassava Crop Protection**

To avoid the spread of pests and diseases, especially Cassava Mosaic Disease (CMD) from the potential suppliers of cassava cuttings to the farmers, a rapid assessment was done in the fields using the GLCI's Quality Management Protocol (QMP). The QMP is a tool with detailed guidelines involving visually inspecting all cassava fields to check for presence of cassava diseases such as CMD and Cassava Brown Streak Disease (CBSD), and by inspecting the leaves and roots of a sub-set of the cassava plants for presence of the diseases.

Prior to this assessment, participating staff received trainings on both CMD and white fly recognition. Staff were also trained on how these can be managed in the field. All fields that were deemed safe for supplying cuttings to the beneficiaries were recorded and their respective GPS coordinates taken.

Before each SV&Fs started all the beneficiaries were sensitized on how to identify cassava mosaic disease infected plants. This was accomplished by using live plant materials and pictures that were infected with mosaic. Other pests of importance such as white flies, rodents, and hogs were also identified and various control measures were discussed.



Figure 6: CRS Project Officer shows farmers symptoms of CMD

### **C. Performance Indicators**

- Sub-sector name A: Seed Systems and Agricultural Inputs
  - OFDA Indicator 1: Projected increase in number of months of food self-sufficiency due to distributed seed systems/agricultural inputs for beneficiary families. The baseline study reported that project host families have seven months of food security. It is too early in the planting season to report on this indicator.
  - OFDA Indicator 2: 2933 persons benefited from seed system/agriculture input activities.
  - CRS Indicator 1: The total cash value of seed and agriculture inputs purchased per beneficiary was 24.46USD. A total of 71,781 USD was spent on seed and agriculture inputs (Cassava cuttings – 26, 833 USD. Hoes, Cutlasses and Trap wire – 44,948 USD).
  - CRS Indicator 2: Percentage of targeted households who adopt at least three improved production and/or harvesting practices, including the use of improved cassava varieties. It is too early in the project to report on this indicator. The baseline study reported that only 18% host families had adopted improved practices.
- Sub-sector name B: Pest and Pesticides
  - OFDA Indicator 1: 0 beneficiaries were trained in pest and pesticide management. This activity will be accomplished in the FFS sessions next quarter.
  - OFDA Indicator 2: 0 beneficiaries are practicing appropriate crop protection procedures at this time. This activity will start next quarter. The baseline study reported that 90% households admitted doing nothing to curtail the rodent problem.
  - OFDA Indicator 3: Estimated number of hectares protected from pests/disease. It is too early to report on this indicator.

#### **D. Expenditure during the year**

Project expenditures incurred this period were for the general management of the project, SV&F costs, and training activities for the implementing the SV&F and FFS.

#### **E. Challenges and lessons learnt**

- During project start-up, there was delay in Caritas' application for DUNS due to newness of the process. This will not have an impact on the project but is a lessons learned. CRS needs to be more supportive in helping local partners apply for their DUNS.
- The signing of the sub-recipient agreement was delayed because the Bishop was out of the Country when the project started. However, now this authority has been delegated to the Director of Caritas Cape Palmas, P. Mike Jurry. This challenge will not have an impact on the project.
- There were delays in recruitment, as the first job postings did not result in adequate candidates' applications, and as such, a second posting was undertaken. CRS was able to assign an existing contracted Admin/Finance Officer to the project as well as a Monrovia driver to support project startup.

- Several issues arose during the vendor and identification process for the cassava cuttings. For example, some vendors were located too far from the beneficiaries, which made it difficult for some of the beneficiaries to collect their cassava cuttings. This challenge will not have an impact on the project since CRS encouraged beneficiaries to collect cassava cuttings from close by farms.
- Due to activities not aligning with the cassava planting calendar, little time was spent on sensitizing the farmers on the whole approach of the SV&Fs. This also resulted in the implementation of SV&Fs in quick succession, allowing less time to reflect on learning after each fair. This challenge will not have an impact on this project but it is a lesson learned for future projects.
- The roads to the beneficiaries' communities are extremely bad and this will have an impact on the maintaining and running costs of the motorcycles and vehicles. The budget line items for in country travel will be overspent but money will be moved from another line item to cover these expenses.



Figure 7: A project officer traveling to one of the project communities

## F. Plans for Next Year

Activity	Q3	Q4	Responsibility
Identification, demarcation and establishment of FFS sites	X		MOA, CRS, Caritas, Farmers
Each group to identify site for FFS	X		Caritas & Farmers
Develop training materials for the FFS	X		CRS, Caritas
Clearing of FFS plots	X		Farmers
Identification of intercrop	X		Caritas & Farmers
Provide planting materials plus other accompanying items	X	X	CRS
Conduct trainings	X	X	MOA, Caritas, CRS, MIA
Field visitation of farmers' visits	X	X	MOA, Caritas, CRS, MIA
Meeting and planning with farmers	X		MOA, Caritas, CRS, MIA
Identification of pests and diseases in the field	X		MOA, Caritas, CRS, Farmers
Development of curriculum on pest management	X		MOA, Caritas, CRS
Conduct trainings for lead farmers on pest management	X	X	MOA, Caritas, CRS
Provide pest control materials for the FFS	X	X	CRS
Training of farmers on pest and disease management in FFS	X	X	Caritas, Lead Farmer
Fencing	X	X	Farmers
Weeding at least 2 times (at 4 and 8 weeks)	X	X	Farmers
Trapping	X	X	Farmers
Monitoring	X	X	MOA, Caritas, CRS
Project close-out		X	MOA, Caritas, CRS