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FOOD AND ENTERPRISE DEVELOPMENT (FED) PROGRAM FOR LIBERIA

FISCAL YEAR 2015 ANNUAL WORK PLAN



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Fiscal Year 2015 Annual Work Plan

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COVER PHOTO: Musu Dolo, 30, is a member of the vegetable farmers group that partners with the USAID Food and Enterprise Development Program for Liberia. To improve the farmers' access to small amounts of capital, USAID FED helped the group of 20 women farmers create a Village Savings Loan Association (VSLA). Between October 2013 and June 2014, the women of Kweeigbein — which means We Ourselves — saved over L\$148,000 or US\$1,600 in Montserrado County. The group extended dozens of loans to its members and raised another L\$28,000 in interest. All the money the group was able to raise stayed within the organization. Ms. Dolo took out two loans to purchase tools and inputs for her vegetable garden. The first loan, worth L\$1,500, was used to buy a watering can. For the second loan, worth L\$5,000, she bought fertilizer and seeds. In June 2014, the group paid out the shares of each member.

DISCLAIMER

The authors' views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development or the United States Government.

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Acronyms

AU-IBAR	African Union's Inter-African Bureau for Animal Resources
AVTP	Accelerated Vocational Training Program
AYP	Advancing Youth Project
BDS	Business Development Services
BSP	Business Service Provider
BWI	Booker Washington Institute
CARI	Central of Agricultural Research Institute
CAHW	Community Animal Health Worker
CBF	County Based Facilitator
CBO	Community Based Organization
CILSS	Permanent Interstates Committee for Drought Control in the Sahel
CoE	Center of Excellence
CSIR	Council for Scientific and Industrial Research
CYNP	Community Youth Network Program
DAI	Development Alternatives Inc.
DCA	Development Credit Authority
DCOP	Deputy Chief of Party
ECOWAS	Economic Community of West African States
ECREP	Evangelical Children Rehabilitation Program
EMMP	Environmental Mitigation and Monitoring Plan
EO	Extension Officer / Executive Order
ESC	Enterprise Service Center
FtF	Feed the Future
GAP	Good Agriculture Practices
GBCC	Grand Bassa Community College
G-CAP	Green Coast Agricultural Program
GDA	Global Development Alliance
GPS	Global Positioning Systems
IBEX	Investing in Business Expansion Liberia
IEE	Initial Environmental Examination
IFDC	International Fertilizer Developmental Center
IITA	International Institute for Tropical Agriculture
IPM	Integrated Pest Management
IQC	Indefinite Quantity Contract
ISFM	Integrated Soil Fertility Management
KRTTI	Kakata Rural Teachers Training Institute
LABEE IPG	Liberia Agriculture Business Enabling Environment Inter-Agency Policy Group
LAUNCH	Liberia Agriculture, Upgrading Nutrition & Child Health
LCCC	Lofa County Community College
LEAD	Liberia Entrepreneurial & Asset Development
LIPAS	Liberia Integrated Professional Agriculture Service
LMEP	Liberia Monitoring and Evaluation Program

LNGO	Local Non-Governmental Organization
MFI	Micro Finance Institution
MIS	Market Information Systems
MoA	Ministry of Agriculture
MoCI	Ministry of Commerce and Industry
MoE	Ministry of Education
MoF	Ministry of Finance
MoP	Muriate of Potash
MoU	Memorandum of Understanding
MSME	Micro, Small and Medium Enterprise
NAPEX	National Association of Village Savings and Loan Association
NDA	National Diploma in Agriculture
NCCC	Nimba County Community College
NIC	National Investment Commission
NSL	National Standards Laboratory
NXP	Non Expendable Property
PERSUAP	Pesticide Evaluation Report and Safer Use Action Plan
PIDS	Performance Indicator Database System
PMP	Performance Management Plan
PPE	Personal Protective Equipment
PUA	Peri-Urban Agriculture
R&RF	Rights & Rice Foundation
RFP	Request for Proposal
RFTOP	Requests for task order proposals
RRA	Rapid Rural Assessment
RSM	Rice Seed Multiplication
SoW	Scope of Work
SPS	Sanitary and Phytosanitary
SRI	System Rice Intensification
TAMIS	Technical Administrative Management Information System
TSP	Triple Super-Phosphate
TVET	Technical, Vocational Education and Training
TWG	Technical Working Group
UDP	Urea Deep Placement
USADF	United States African Development Foundation
USAID	United States Agency for International Development
VET GOV	Veterinary Governance in Africa
VSLA	Village Savings and Loan Association
WAAPP	West Africa Agriculture Productivity Program
WAFP	West Africa Fertilizer Project
WASP	West Africa Seed Project
WFP	World Food Program

Background

The USAID Food and Enterprise Development (FED) Program for Liberia is a USAID-funded development program that was launched in September 2011. USAID FED uses an all-inclusive strategy incorporating micro, small and medium enterprise (MSME) farmers, processors, suppliers, women, and youth while partnering with the government of Liberia and local civil societies to achieve food security.

The goal of USAID FED is to increase food availability, utilization, and accessibility by building an indigenous incentive structure that assists agricultural stakeholders in adopting commercial approaches.

This incentive structure is built upon:

- Improved technology for productivity and profitability
- Expanded and modernized input supply and extension systems
- Commercial production, marketing, and processing
- Enterprise services
- Workforce development

USAID FED works with the Ministry of Agriculture (MoA), Ministry of Commerce and Industry (MoCI), Ministry of Finance (MoF), civil societies and the private sector in providing communities access to agricultural inputs — including improved seed varieties — extension services, nutrition messages, processing services, market information, transportation, credit, agro-business education, training, and enterprise services.

In five years, USAID FED's thrust to expand market linkages is expected to lead to substantial increases in income and job opportunities. USAID FED aims to significantly boost the production, processing, marketing and nutritional utilization of rice, cassava and vegetables, and to enhance the productivity of goat farming in the counties covered by the program.

These initiatives are being carried out in Bong, Lofa, Nimba, Grand Bassa, Montserrado, and Margibi counties. USAID FED focuses on these counties because they are situated along regional development corridors that are crucial in promoting intra and inter-county commerce. These growth corridors are expected to improve food availability and access for all Liberians.

USAID FED's methodology is market-led and value chain-driven; it is committed to developing indigenous capacity building, with a specific focus on Liberia's women and youth.

USAID FED is implemented by five partners: Development Alternatives, Inc. (DAI), Winrock International, International Fertilizer Developmental Center (IFDC), Louisiana State University (LSU), and The Cadmus Group.

Executive Summary

In FY14, USAID FED achieved major milestones and either reached or exceeded targets for 16 of the 20 program indicators. A total of 40,779 farmers applied improved technologies on more than 6,305 hectares as a result of USAID FED assistance. Full-time employment (FTEs) generated by the program increased from 90 in FY13 to 2,177 in FY14.

The commercialization of the rice value chain commenced with surplus production from USAID FED beneficiaries and the establishment of Fabrar, the first industrial rice mill in Liberia. Fabrar has started buying large volumes of grain rice from USAID FED beneficiaries, contributing to total sales of 1,183 MT of grain rice with a value of US\$561,800 at the farmer's level. Over 8,550 MT of milling capacity and 2,054 cubic meters of storage capacity were created through the program's support in anticipation of more surpluses in FY15.

The program expanded the demonstration of Urea Deep Placement (UDP) methodology at 139 sites. The program also trained 17 rice seed inspectors to ensure rice seed production protocols are properly adhered to by seed producers at 22 rice seed multiplication sites. Enhanced irrigation structures were constructed to provide water for 50 hectares of rice lands at 12 sites. These irrigation structures are being used to demonstrate technology that can lead farmers to plant two-to-three crops per year.

In the cassava value chain, the program established 40 nurseries that will supply cuttings of improved cassava varieties to 25,000 cassava farmers for planting on approximately 6,250 hectares of cassava fields. To further augment availability and access to improved planting materials, USAID FED and institutional partner Central Agriculture Research Institute (CARI), imported 40,000 cuttings of 11 new varieties from the International Institute of Tropical Agriculture (IITA) in Nigeria. Cassava farmers assisted in FY13 have so far sold 657 metric tons of cassava tubers with a value of US\$90,262. Harvesting is expected to continue until December of this year.

USAID FED has engaged small cassava processors in Monrovia and facilitated meetings between processors and cassava farming clusters. The Monrovia-based processors were preparing to source tubers from FED beneficiaries when the Ebola crisis began. The processors still express strong interest in buying from FED-supported farming clusters. In total, USAID FED evaluated capacity gaps of 29 micro and small cassava processors who will be supported in FY15.

In the goat value chain, USAID FED has increased the production intensification sites from 19 in FY13 to 103 in FY14 and supported the construction of 271 goat shelters. A total of 206 Community Animal Health Workers (CAHW) were trained and provided with starter kits to enable them to provide veterinary services to local goat farmers. USAID FED started marketing activities by piloting a livestock market day with goat farmers and traders. In FY14, program beneficiaries sold more than 1,651 goats for a value of US\$128,460. USAID FED supported the establishment of a livestock quarantine facility at CARI, which then quarantined 209 goats imported by the United States Department of Agriculture / Land O'Lakes (USDA/LOL) Food for Progress program.

In the horticulture value chain, USAID FED established and supported 21 clusters that produce high-value vegetables and assisted them in establishing a collection center in each cluster. These collection centers serve as platforms for demonstrating improved post-harvest handling and processing of fresh vegetables. USAID FED-assisted procurement contracts resulted in traders buying 36 MT of vegetables valued at US\$41,000, contributing to vegetable sales of more than US\$180,000 in FY14. A three-way collaboration between local micro-finance institution Liberia Entrepreneurial and Asset Development (LEAD), USAID FED and vegetable farmers to procure water pumps for vegetable production during the dry season was a breakthrough activity.

Under USAID FED's Component Two, the program made significant progress in improving the Business Enabling Environment with the reinstatement of the duty waiver for importation of agricultural inputs under Executive Order No.64, and Liberia's adoption of the seed, fertilizer and pesticides regulations of the Economic Community of West African States (ECOWAS). Additionally, the program initiated the formation of a multi-agency policy group named Liberia Agriculture Business Enabling Environment Inter-agency Policy Group (LABEE IPG).

The Village Savings and Loan Association (VSLA) program grew from 26 groups in FY13 to 123 groups in FY14, benefiting 3,400 farmers, mostly women. The VSLAs generated US\$184,000 in savings-based loans for members. These loans facilitated sales of agricultural products worth US\$120,000 and raised US\$184,000 in investments in agricultural activities.

In the program's Component Three, the National Diploma in Agriculture (NDA) curriculum was finalized and approved by the Ministry of Education (MoE) for adoption in the three FED-supported community colleges and the Booker T. Washington Institute (BWI). USAID FED provided technical assistance to develop syllabi and lesson plans for the NDA's first two semesters.

Although the FY14 accomplishments bring the program closer to its goals, there are still areas where USAID FED needs to propose modifications of contractual targets based on the challenges and realities on the ground. While USAID FED is working on finalizing the proposal to modify some targets, it continues to strive to accomplish the project's scope of work through innovative approaches and the implementation of lessons learned in the first three years of the program.

A major lesson learned in FY14 is the need to start area and beneficiary identification two months before the start of the fiscal year to ensure timely delivery of inputs. The program's Market Development Fund (MDF) management system requires area and beneficiary details for approval of activities and procurement requests. This system was developed based on lessons learned from FY13 and aims to avoid inventory piling up in program warehouses. USAID FED has established a standard support package of technical assistance and agricultural inputs to new farmer beneficiaries based on FY13 and FY14 experience. The combination of early engagement of new beneficiaries and the standardization of support at the farm level is expected to address delays previously experienced in delivering inputs to beneficiaries.

In FY15, the overall direction of the program is to continue supporting improvements in productivity and increases in production within the four value chains via increased outreach on the production side.

USAID FED will support an additional 39,610 beneficiaries with inputs, technology demonstrations and training. The support to beneficiaries from FY12, FY13 and FY14 will focus on business development services, creating access to improved planting materials, access to financing, improving options for markets, as well as continuing technical assistance to ensure adoption of improved technology. USAID FED's total beneficiary outreach is expected to reach 79,000 people by the end of FY15, and improved technology will be applied on an additional 8,687 hectares with direct program support.

In FY14, USAID FED placed equal emphasis on helping market players improve their capacity to process, transport, store, and sell local produce to end-market channels at competitive prices. In FY15, the program will continue to strengthen the capacity of processors, traders and other market channels to absorb the increasing surplus production. With the production segment of the value chains now positioned to deliver more supply, the program will give more support to sustainable arrangements in aggregating farm produce, such as those through collection centers and group marketing.

USAID FED will support improved post-harvest handling and logistics service provision to ensure timely transport and delivery of produce from farm to market in order to reduce post-harvest losses. USAID FED will leverage marketing platforms such as processors, aggregators, and providers of mechanized services like power tillers to expand its reach beyond the farmers who receive direct assistance. Additionally, the program will tap youth organizations to provide logistic services to encourage youth involvement in the agriculture sector.

USAID FED will begin engaging value chain players to improve governance of the value chains focusing on product standardization, price discrimination based on quality and more transparent market information. USAID FED's specific objectives for the different value chains are as follows:

Rice Value Chain

- Train 11,025 upland rice farmers and 7,175 lowland rice farmers.
- Increase productivity on 2,965 hectares of upland rice areas.
- Expand lowland rice production on 1,908 hectares.
- Target at least 50 percent of FY14 lowland areas with UDP adoption.
- Assist farmers in areas where the 12 irrigation spillways were established in FY14 to harvest two crops in one year on 50 hectares of land.
- Build 30 new irrigation spillways in FY15 on another 160 hectares of land.
- Assist at least one private sector company in commercially producing and marketing good seeds of the improved rice varieties.
- Assist 30 power tiller operators and help them to operate profitably.
- Facilitate Liberia and/or another private sector stakeholder (e.g., input supplier or trader) to provide inputs through embedded services to USAID FED farmers.
- Sales at the farm level will increase to three times that of FY14.
- Business hubs established in FY14 supported to operate profitably.
- Support three large Liberian landowners towards commercial production of lowland rice.
- Construction of 6 storage facilities
- Construction of 10 drying pads

Cassava Value Chain

- Introduce 12,960 farmers to improved planting methods and Integrated Soil Fertility Management (ISFM) on 3,564 hectares of land.
- Support 40 commercial nurseries to supply good quality planting materials of improved cassava varieties to 25,000 cassava farmers.
- Propagate 11 successfully screened, imported improved cassava varieties and selected genotypes released by CARI and IITA within Liberia.
- Support 29 micro-processors in increasing their procurement of raw tubers and improving their profitability.
- Assist four small processing enterprises based in Monrovia in increasing their procurement of raw tuber from 3 MT to 7 MT per month, and increase their sales from US\$3,300 to US\$7,700 per month.

Horticulture Value Chain

- Train 3,750 vegetable farmers in 186 clusters in improved production practices for local and high-value vegetables on a minimum of 125 hectares.
- Support 3,390 vegetable farmers who will produce and supply local vegetable varieties to six trader associations identified in USAID FED counties.
- Develop 186 lead farmers from these clusters who will aggregate local and high-value vegetables for trader associations and the private sector companies.
- Support private sector investors like ROSNA, Grain Coast Inc. and others to establish contract farming with at least 700 farmers as out-growers for high-value vegetable production.
- Assist five trader associations and two private sector firms in operating low-cost storage and logistics facilities that will reduce post-harvest losses.
- Protected cultivation is successfully demonstrated during the rainy season, producing vegetables on 21 FY14 sites.
- Encourage 12 agro-dealers to co-invest and aggressively market inputs to vegetable clusters in the six counties in partnership with agro-input supplier companies like Wience or GroGreen.
- Grain Coast Inc. to begin exporting high-value vegetables to European markets.
- Support one private sector company in establishing vegetable certified-seed production and distribution pilot plan.

Goats Value Chain

- Support 77 new goat production sites with 1,545 goat farmers with goat shelters.
- Train 4,017 new goat farmer beneficiaries in improved production practices.
- Support 2,060 direct beneficiaries in FY13 and FY14 in accessing markets, business development services and financing.
- Train and provide start-up kits to 154 new CAHWS who will provide veterinary services to goat farmers.
- Establish at least one livestock marketing hub in each of the four counties.
- Establish product standards and provide tools and equipment (weighing scales) to enforce these standards.
- Promote improved nutrition designed to shorten the time from weaning to market, leading to more goats sold in a year.
- Conduct peste des petits ruminants (PPR) vaccination campaign nationwide.
- Establish a nucleus breeding herd in CARI.

Peri-Urban Agriculture and Youth

- Support 25 new horticulture clusters in Margibi and Montserrado benefitting 500 youth producing high-value-vegetables and linked to buyers.

- Establish 49 new youth micro-enterprises to provide transport services in the cassava and rice value chains.
- Establish 20 new youth micro-enterprises to provide power tiller and power saw services.
- Create 98 new full time jobs for youth as machine operators in cassava processing enterprises and rice business hubs.
- Support FY14 apprentices in creating 16 new micro-enterprises providing blacksmith and carpentry services to rice and goat farmers.
- Support at least four local youth NGOs providing extension services to expand service offerings to include business development services; and help them achieve profitable operations.

In FY14, 70 percent of the program's beneficiaries received nutrition messages. In FY15, USAID FED will improve messaging through a communications strategy that aims to change consumption patterns towards a more diversified diet containing more animal protein and nutrient-rich food.

In FY15, USAID FED will continue to conduct special studies that are meant to inform programming with data, which will serve as basis for adjusting targets and enhancing FY15 and FY16 strategies. Annual surveys on rice, cassava and vegetables yields help determine the impact of USAID FED's intervention while providing a realistic benchmark for future targets.

In FY15, the MoA offices in Bong, Lofa, Nimba and Grand Bassa counties will be provided with equipment to collect, process, analyze, store and transmit data. The program aims to first make the MoA Bong County office's Monitoring and Evaluation (M&E) system fully functional. This system will then be replicated to the MoA offices in Grand Bassa, Nimba and Lofa counties.

Component Two: Stimulate Private Enterprise Growth and Investment

- Draft and gain approval for the implementing guidelines and set up implementing bodies for the Seed, Fertilizer and Pesticides regulations.
- Expand VSLAs from 123 to 573, facilitating loans of US\$350,000 to 7,075 farmers.
- Pilot the formation of at least one VSLA into a micro-credit union in partnership with Microlead.
- Link LEAD to farmers and MSMEs to disburse US\$237,000 in loans to 1,416 farmers and entrepreneurs.
- Facilitate financing for at least three MSMEs to enable them to provide embedded financing services to farming clusters.

USAID FED will merge the activities related to Access to Business Development Services (ABDS) under Component Two with the activities related to the establishment of the Enterprise Service Centers (ESCs). In FY15, USAID FED will develop five Business Service Providers (BSPs) to support a minimum of 250 MSMEs and 18,935 farmers. The program will register a minimum of 50 new MSMEs through the BSPs and work to strengthen the capacity of farming organizations to do business. These BSPs will be strengthened toward eventually managing and operating the Enterprise Service Centers.

USAID FED continues to place a strong focus on increasing women's involvement in agribusinesses and empowering women in agriculture. In FY15, the program will incubate businesses for 50 women leaders involved in diverse agribusinesses including peanut and cowpea processing and marketing.

Component Three: Building Local Technical and Managerial Human Resource Capacity

- Roll out the National Diploma in Agriculture (NDA) as soon as schools open.
- Complete the development of syllabi and lesson plans for the second year of the NDA.
- Complete the establishment of agricultural science laboratory (includes the soils laboratory) and computer laboratory in every Center of Excellence (CoE).
- Complete upgrading of libraries.
- Support the establishment of agribusiness enterprises, and develop the CoEs' capacity to generate incomes from other sources.
- Strengthen partnership with private sector agribusinesses and continue to improve the instructors' capacity to deliver the NDA.

COMPONENT ONE: INCREASED AGRICULTURAL PRODUCTIVITY AND PROFITABILITY

Task I: Value Chain Development

Task IA: Increased Productivity and Profitability of Rice Value Chain

A. The Challenge

For millions of Liberians, rice remains the most important staple crop for household consumption. Liberians consume 435,000 tons of milled rice per year, but only 163,000 tons are produced in the country.¹ The deficit is made up through subsidized rice imports, representing 63 percent of the total.

A total of 74 percent of households reported growing rice, while nine out of 10 rice farmers say they do so by shifting cultivation to upland soil. Production of upland rice is not viewed as a means to boost income, but rather as a way to support household subsistence needs. Currently, there is no comparative advantage seen either regionally or internationally with upland rice production. Additionally, traditional agricultural practices of shifting cultivation, or slash-and-burn techniques in the upland, result in land degradation, especially if the fallow period is too short.

Liberia has vast lowland areas that were cultivated before the war and then were abandoned during and after the war. The main challenge to achieving commercialization of the local rice value chain is the Liberian rice farmer's lack of motivation to produce beyond consumption, to move away from traditional, upland production systems and to adopt high productivity strategies in lowland rice production.

Today, huge second-growth trees and bushes grow in these abandoned lowlands. A major challenge to lowland rice expansion is the labor-intensive process required in clearing these areas and reconstructing dikes, bunds and canals. The work entails huge investment cost, estimated at US\$2,300 per hectare.

Even after the lowland is cleared and water management infrastructures are put in place, the lack of mechanization — through either animal traction or motorized equipment — means that manual land preparation takes up huge amounts of labor and time. The high costs of inorganic fertilizer and other inputs further contribute to the high cost of production and high cost per kilo of rice produced. In areas where there are no perennial water sources, farms depend on rain. Irrigation infrastructure allows year-round water availability.

Considering duty exemptions on imported rice, investment in any segment of the rice value chain is not as profitable as other investment options such as palm oil, rubber and cocoa. Industrial processing is not attractive because the cost of raw materials (grain or paddy rice) at farm gate is practically equal to the price of imported milled rice in the market. Additionally, high energy costs associated with processing as well as poor road infrastructure from the rural areas to the milling locations further add to the cost of the paddy rice.

¹ LISGIS, 2010, page 13.

In an analysis done on an industrial rice mill with a 4,000-MT capacity, direct cost of raw material represents 78 percent of the total cost of production of milled rice. This means that the only way a processor/wholesaler of rice can be competitive is if there's a significant reduction in the price of paddy/grain rice, including transport costs. These high costs of production of paddy rice make large-scale milling unprofitable and therefore not attractive to investors.

B. USAID FED Life Of Project (LOP) Objectives and Status

I. LOP Objectives/Targets

In FY15 and FY16, USAID FED will focus on expanding production in the lowlands while continuing to support improvement of productivity in existing upland farms. USAID FED plans to support 15,350 new lowland rice farmers to till 4,028 hectares and 23,510 new upland rice farmers to farm on 6,083 hectares during the remaining period of project implementation in Bong, Nimba, Lofa and Grand Bassa counties.

All in all, the USAID FED program plans to assist 60,000 rice farmers to produce commercial paddy rice on approximately 15,000 hectares during the life of project.

2. Milestones in FY14

2.1 Rice sales

In FY13, 1,463 upland rice farmers and 6,421 lowland rice farmers produced 5,054.2 MT of rice from 2,101 hectares of land. A total of 1,223.19 MT of this crop were sold during FY14 for US\$565,000 through assistance from FED.

2.2 Upland rice production

In FY14, USAID FED supported 206 upland sites and a total of 8,595 upland rice farmers (5,342 men, 3,253 women) with training, extension, and farm inputs for rice cultivation on a total of 2,488 hectares. These farmers are expected to harvest 4,977 MT of rice valued at US\$1,991,000 during FY15.

2.3 Lowland rice production

In FY14, USAID FED established and supported 205 lowland sites and a total of 10,794 lowland rice farmers (5,652 men, 5,142 women) with training, extension and farm inputs to plant paddy rice on a total of 1,425 hectares in Bong, Nimba, Lofa and Grand Bassa counties. These farmers are expected to harvest 5,700 MT of rice valued at US\$2,280,000 in FY15.

2.4 Adaptive research

USAID FED has established 139 UDP trial sites on a total of 239 hectares in Bong, Nimba, Lofa and Grand Bassa counties. Of the 50 sites set up for UDP three-treatment trials on 150 hectares, 29 sites are in Nimba, 14 sites are in Bong, and seven sites are in Lofa. Each site compares the following treatments: T1) No fertilizer, T2) Urea broadcasting, and T3) UDP. The other 89 sites showcased UDP technology on one-hectare demonstration sites. This research follows up on FY13 research on UDP's impact on rice yields and profitability. Through these two approaches – the UDP only and three-

treatment side-by-side comparison – USAID FED is also testing which extension delivery approach is more effective. The outcome will be gauged by UDP adoption rates of those farmers exposed to these sites.

2.5 Soil sample analysis and testing

In FY14, soil samples from 132 UDP trial sites were collected for soil nutrient requirements analysis. A total of 20 100-gram (2 kg) samples were sent to the International Fertilizer Developmental Center (IFDC) Laboratory in Alabama, USA for testing and analysis. An additional 300 100-gram (30 kg) samples were sent to the Council for Scientific and Industrial Research (CSIR) in Ghana for testing and analysis. The test results from the two laboratories will help the program develop soil fertilization support to lowland farmers in the areas where the samples were taken.

A total of 58 participants from USAID FED, MoA, Centers of Excellence, Cuttington University and University of Liberia staff were trained on soil sample collection by a soil scientist from the University of Liberia. Four Hach Soil testing kits were procured to facilitate soil testing, and 14 participants were trained on soil testing and analysis by a soil chemist from IFDC. Since Liberia has poor soil analysis capabilities and has no soils maps made during the post war period, these soils analyses are a vital contribution to beneficiaries and other agriculture stakeholders interested in knowing more about the state of soil fertility in Liberia.

2.6 Rice seed production

In FY14, USAID FED identified and established 22 Rice Seed Multiplication (RSM) sites on a total of 160 hectares (10 lowland sites of 40 hectares and 12 upland sites of 120 hectares) in Bong, Nimba and Lofa counties. The 12 upland RSM sites were provided with 1.8 MT of Nerica L-14 and 4.2 MT of LAC 23 rice seeds. The 10 lowland sites were provided with 2 MT of Nerica L-19 and 40 UDP applicators. The RSM sites received 4.2 MT of fertilizer (2.4 MT of NPK and 1.8 MT of urea granules). All 22 sites are currently being monitored by the 17 seed inspectors and are anticipated to produce 400 MT of rice seeds, or 160 MT of lowland seeds (Nerica L-19) and 240 MT of upland seeds (Nerica L-14 and LAC 23). In FY15, these sites will be inspected by Africa Rice Center experts to ensure that production methods adhere to the required protocols of certified seeds. The RSM sites will supply 43 percent of the seeds needed by the new farmer beneficiaries in FY15. The rest of the needed seeds will come from farmers assisted in FY14 (30 percent) and seed companies (27 percent).

2.7 Water management infrastructure

In FY14, a total of 12 irrigation spillways were constructed with the assistance of local construction company, Tallobenku Inc., and the farmers who contributed materials. There are four sites in Bong, four sites in Nimba and four sites in Lofa County. These sites will enable farmers to produce two rice crops per year on 50 hectares of land during the FY15 period. Four sites with an area of two hectares will also be used to pilot UDP and System Rice Intensification (SRI) trials because they have year-round water supply and infrastructure to implement alternate wetting and drying of paddy fields.

2.8 Community rice business hubs

In FY14, USAID FED supported the construction of 10 community Rice Business Hubs. There are three in Bong, three in Nimba, three in Lofa and one in Grand Bassa. Each hub has a total milling capacity of

780 MT per year. Each hub has a power tiller, rice thresher, drying slab, parboiling tank, hand-pump deep-well, de-stoner, rice mill, gender-friendly latrine, storage and store outlet for input supply and milled rice. Each hub is strategically located to serve several communities with a critical mass of rice farmers. The rice business hub is a platform by which mechanized services (e.g., power tiller), storage, rice mill and input supply will be made available and accessible to area rice farmers. At the same time, the hubs will serve as outlets for milled rice to increase the availability of local rice. In FY14, the established hubs employed 58 people on a part-time basis

2.9 Support to industrial rice processing

In FY14, USAID FED supported Fabrar Liberia Inc. to establish Liberia's first industrial rice processing facility in Kakata, Margibi County. The program supported the renovation of Fabrar Liberia's warehouses and procured automated rice mills and dryers. The new processing facility has a total milling capacity of 3,750MT per year. Through USAID FED, Fabrar Liberia will also install a Lister engine to demonstrate the use of renewable energy in providing power to the rice grain dryer. Fabrar Liberia has invested approximately US\$500,000 in the facility with financing assistance from the World Bank's West Africa Venture Fund. In FY14, Fabrar Liberia procured 126.3 MT of rice valued at US\$45,000 from USAID FED-supported farmers.

3. Major Challenges in Programmatic Implementation

In FY13, the World Food Program (WFP) and the MoA conducted rice purchases at prices that were not only uncompetitive for the private sector but also distorted Liberia's market prices. Then in FY14, WFP did not purchase rice from the market due to funding constraints. As a result, many farmers were left with surplus rice in stock, anticipating a purchase price of US\$20 per 50-kg bag of paddy rice. With USAID FED's facilitation, Fabrar Liberia and FED-supported farmers agreed to a price of US\$19 per 50-kg bag. This price remains uncompetitive for the private sector to be profitable, but is a good start to building the relationship between Fabrar Liberia and the farmers.

Farmers requested USAID FED's assistance to aggregate FY13 paddy rice in accessible warehouses where Fabrar Liberia could collect. The program's Lofa County office had to financially assist farmers to mobilize and transport surplus rice to centrally located warehouses in the county, a process that permitted a rapid delivery of rice to the buyer. In FY15, USAID FED will be helping farmers and buyers come up with win-win arrangements for bulk aggregation and transport as part of their costs to ensure sustainability of the supply chain.

The process of soil sample collection, testing and analysis took longer than anticipated since it incorporated training of lead farmers, and CoE and program staff. It also covered a huge area consisting of 100 sites. This activity was also not part of the FY14 approved work plan and emerged from the recommendations made following an assessment of UDP trial sites by the IFDC Soil Scientist, Dr. Upendra Singh, in April 2014. Due to the delay in getting the result of the test, an interim fertilization rate was recommended by Dr. Singh based on what is generally recommended for lowland rice in West Africa.

In FY14, eight private sector firms were assessed as possible for-profit rice seed producers and suppliers. Two of these, Wienco and Arjay Farms, were shortlisted as possible investors, based on infrastructure availability within their facilities and out-grower influence in the field. However, Wienco declined to invest in rice seed production and marketing, considering it as a high-risk investment in the current Liberian context. Wienco is more interested in investing in rice processing and retailing. While Arjay Farms expressed interest in participating in rice seed production, USAID FED and Arjay Farms must first reach an agreement on the use of equipment supplied through previous MOU arrangements before further financial investments can be made for rice seed production with outgrowers. USAID FED followed up with Arjay Farms several times in FY14 to address issues relating to previous MoU, but could not reach a resolution because of a lack of response on the part of Arjay Farms. The lack of cooperation from Arjay Farms is preventing the future partnership.

In FY14, USAID FED recruited and engaged an international senior rice technical specialist under a short-term technical assistance (STTA) contractual obligation to provide technical assistance to upland and lowland rice production initiatives. Due to the Ebola outbreak, the STTA was evacuated from Liberia. The provision of technical guidance under this role remains critical, but with necessary and much needed physical field presence.

4. Lessons Learned in FY14

Development partners need to discuss how best to intervene in the rice value chain without negatively distorting market prices. All stakeholders should ensure that future procurements are not counter-productive for Liberian rice processors and other value chain players. The role of development partners is particularly important as these and the Government of Liberia source emergency rice reserves from local suppliers during the Ebola crisis period.

It is unsustainable for USAID FED to continue to fund the cost of paddy rice aggregation for farmers. Farmers need to be encouraged to understand the costs of production and approach rice aggregation from a cluster point of view that reduces costs. One way of doing this is by encouraging collective bulking by farmer groups. Sustainable aggregation and logistics management for moving paddy rice from individual farms to the buyer's buying station will be a focus of USAID FED programming in FY15. Farming groups need more coaching on production planning, sales and how to maintain sustainable business relationships with the private sector to ensure win-win business relationships.

Although the soils analyses were delayed, the results will be valid for a period of at least three years and, thus, fertilizer application requirements will be established for the life of project. FED will work with private sector players in the value chain to offer agro-input supplies as embedded financing service to ensure utilization of inputs for higher productivity.

Toward expanding rice seed production and marketing, USAID FED will continue to partner with Africa Rice Center and the West African Agriculture Productivity Program (WAAPP) to ensure that certified rice seeds of the improved varieties are produced in Liberia. This, in turn, is expected to help stabilize Liberia's self-sufficiency rating in rice.

C. Approach to Achieve LOP Targets/Objectives and FY15 Objectives

I. Strategy for FY15 and FY16

USAID FED will continue to work with rice farmers in improving productivity in the uplands, expanding rice production in the lowlands, establishing more water management infrastructure, enhancing adoption of mechanization as well as promoting local processing of paddy rice and fee-based services through community rice business hubs. USAID FED will support FY13 and FY14 rice farmers through the program's Component Two by linking the farming clusters to financial services that will help sustain rice production. This support includes the formation of Village Savings and Loan Associations and supporting them through embedded financing with industrial processors.

In addition to supporting farming groups, USAID FED will explore opportunities to support large Liberian land owners in the core counties towards commercial production of lowland rice through cost-sharing arrangements. In FY14, several private investors of this nature have approached USAID FED and expressed interest in possible investment partnerships in large-scale farming on private lands.

Through partnerships with Africa Rice Center, WAAPP and the private sector, USAID FED will facilitate access to improved seed varieties to optimize productivity and quality of rice. It is anticipated that the rice multiplication sites established by USAID FED will produce 1,200 MT of improved rice seeds from 2014 to 2017. An additional 1,000 MT of improved seeds will be produced under partnerships with private-sector seed producers and research institutions in the same period.

USAID FED will also continue to support and leverage private investors like Fabrar Liberia to develop stronger supply chains for paddy rice grown in rice production clusters. An example of this would be the creation of contract farming agreements between processors and rice farming groups. Rice business hubs can be utilized for contract-processing and as aggregators for industrial processors like Fabrar Liberia. This way, the rice business hubs can absorb increased volumes of rice from farmers producing within and outside of USAID FED's zone of influence.

Furthermore, large-scale landowners could be contracted by industrial processors to produce commercial lowland rice. USAID FED will support industrial processors and the rice business hubs in embedding services such as access to inputs through these contractual arrangements. Other rice value chain interventions will depend on the results and recommendations of adaptive research initiatives such as UDP, UDP-System Rice Intensification (SRI) trials and soil fertility analyses, which will provide soil nutrient requirements for different counties and regions based on soil testing results conducted in FY14.

2. Anticipated Achievements FY15

- 10,794 lowland rice farmers will produce 5,424 MT of FY14 rice crop on 1,356 hectares, valued at US\$2,061,120.
- 8,595 upland rice farmers will produce 4,977 MT of FY14 rice crop on 2,488 hectares, valued at US\$1,991,000.

- 11,025 new upland farmers recruited and mobilized to produce rice on 2,965 hectares of land. These farmers are expected to produce 5,929 MT of rice valued at US\$2,371,600 to be harvested in FY16.
- 7,175 new lowland farmers recruited and mobilized to produce rice on 1,908 hectares of land. These farmers are expected to produce 7,633 MT of rice valued at US\$3,053,120 to be harvested in FY16.
- 12 irrigation spillways established in FY14 sites will support two crops per year on 50 hectares of land.
- 12 new irrigation spillways built in FY15 to produce two crops per year on 100 hectares.
- Yield results from 139 UDP pilot sites documented and recommendations disseminated towards promotion of more efficient fertilization methodologies.
- Pilot testing of UDP-SRI in four sites completed and study published.
- 10 community rice business hubs established in FY14 are operating optimally and profitably, providing services to rice farmers and linked to industrial-scale rice processors.
- 10 new rice business hubs established in the four core counties and linked to industrial-scale rice processors.
- 30 new power tiller service enterprises are operational.
- At least 1 private sector firm engaged to produce and market rice seeds commercially.
- Fabrar Liberia and/or another private sector stakeholder (e.g., input supplier/trader) provides inputs through embedded services to USAID FED farmers in four counties and with at least three private, large-scale rice producers.
- Fabrar Liberia brands, markets and supplies Liberian rice sourced from USAID FED-supported clusters to local retail outlets.

3. FY15 Indicators and Targets

Deliverable	FY15		
	Total	Women (50 percent)	Youth (45 percent)
Number of rural households benefitting directly from USG interventions	18,200 ²	9,100	8,190
Number of farmers and others who have applied new technologies and management practices as a result of USG assistance	18,200	9,100	8,190
Number of hectares under new technologies or management practices as a result of USG assistance	4,873 ³	2,436	2,193

² This represents 70 percent of expected outreach for upland and lowland beneficiaries during the FY15 implementation period

³ This represents 70 percent of expected outreach for upland and lowland sites during the FY15 implementation period

Hectares under new or improved/rehabilitated irrigation or drainage services as a result of USG assistance	1,908 ⁴	954	859
Number of private enterprises, producers organizations, women's groups, trade and business associations and community-based organizations (CBOs) receiving USG assistance	410	205	185
Number of private enterprises, producer organizations, women's groups, trade and business associations and community-based organizations (CBOs) that applied new technology or management practices as a result of USG assistance	410	205	185
Total increase in installed storage capacity (M ³)	1,200 ⁵	N/A	N/A
Number of farmers and others having access to improved seeds	18,200	9,100	8,190
Number of individuals receiving nutrition messages within agricultural programs as a result of USG assistance	18,200	9,100	8,190
Number of household with improved diet diversity	9,100	4,550	4,095
Total increase in installed milling capacity for crop processing (MT)	960 ⁶	N/A	N/A
Reduction in Percentage of Post-Harvest Losses	5	5	5
Value of incremental sales (collected at the farm level) attributed to FtF	US\$1,900,000	US\$950,000	US\$855,000
Value of new private sector	US\$1,045,000 ⁷	N/A	N/A

⁴ Represents all new lowlands to be supported during FY15 implementation period

⁵ From the 10 new rice business hubs

⁶ Represents 960 MT milling capacity for 10 additional rice business hubs

⁷ 30 power tiller operators invest US\$2,000 each, Wience invests US\$250,000, 1 seed company invests US\$25,000, 3 large Liberian rice producers invest US\$70,000 each, FABRAR invests US\$500,000

investment in the agri sector or food chain leveraged by FtF implementation			
Number of jobs attributed to FtF implementation	295 ⁸	148	118
Number of public-private partnerships formed as a result of FtF assistance	410 ⁹	205	185
Number of MSMEs, including farmers, receiving business development services from USG-assisted sources	18,246	9,123	7,298
Total amount of financing (cash and in-kind) accessed by farmers and agribusinesses through formal, informal, and embedded services.	US\$508,087	US\$254,044	US\$228,639
Number of MSMEs, including farmers, receiving USG assistance to access loans (supported under Component 2)	1,004	502	452
Number of firms (excluding farms) or Civil Society Organizations (CSOs) engaged in agricultural and food security-related manufacturing and services now operating more profitably (at or above cost) because of USG assistance	46	N/A	N/A
Number of individuals who have received USG-supported short-term agricultural sector productivity or food security training	18,246	9,123	7,298

4. FY15 Work Plan

1. Results Framework for Task 1A

Constraint	Proposed	Key Activities	Outcomes FY15	Women & Youth
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⁸ 30 power tiller operators, 10 RBHs employ 12 persons each, Wience employs 20 people, FABRAR employs 20 persons, 3 large scale rice producers employ 30 people each, 1 seed company employs 15 people

⁹ 364 farming groups, 30 power tiller operators, 10 rice business hubs, 1 seed companies, 3 large scale rice producers, 1 industrial processor

	Solutions			involvement
Upland rice productivity is low	Support new farmers to cultivate upland rice using improved techniques	Recruit 11,025 new upland farmers to produce upland rice during FY15	11,025 new farmers producing upland rice 2,965 new hectares under upland rice production 5,930 MT of upland rice produced	Recruitment of beneficiaries will ensure 50 percent are women and 45 percent are youth
Upland rice farmers lack access to improved seed varieties	Provide upland farmers with improved seed varieties for upland rice production	Establish 297 hectares of new demonstration plots (0.5 hectares of demo for every 5 hectares planted with 17.82 MT of Nerica L - 14 seed distributed to plant 297 hectares of new demo sites, at a seeding rate of 60 kg per hectares) Actual demand for upland rice seed in Liberia documented through a survey with buyers and suppliers (M&E)	11,025 upland rice farmers have access to improved seed; 297 hectares demonstrate improved yields through the use of improved seed varieties	Women and youth farmers will be provided with access to improved seed varieties, training and extension
Upland rice farmers do not apply inputs such as fertilizer for soil nutrition	Provide upland farmers with information about soil fertility and access to fertilizer	Create awareness about the benefits of fertilizer application through extension material and radio programs 60 MT of fertilizer supplied to 297 hectares demonstration plots 8.91 MT of peanuts and 4.46 MT of cowpeas planted on equivalent land area alongside the upland rice to demonstrate crop rotation. Farmer groups linked to financial service providers and agro-	11,025 farmers have knowledge of and access to fertilizer and financial services 297 hectares under demonstration produce a minimum of 2 MT of rice per hectares as a result of fertilizer application Peanuts and cowpea seeds are made available for crop rotation of 11,025 farmers in their individual plots for FY16	Linkages to financial services and agro-input suppliers will prioritize women and youth farmers

		input suppliers to access fertilizer		
Upland rice farmers continue to practice shifting cultivation	Encourage farmers to cultivate upland rice on previously cultivated land to reduce the tendency to shift cultivation	Create awareness about the benefits of moving away from shifting cultivation through extension material and radio programs	11,025 new farmers aware of the need to reduce the practice of shifting cultivation	Awareness campaign will target women and youth farmers
Upland rice farmers apply cultivation methods that require extensive labor and time	Provide farmers with access to acceptable herbicide to control pre- and post- emergence of weeds	Document herbicide requirements for the uplands and develop extension material Supply 4,752 liters of appropriate herbicide combinations and fertilizer on 297 demonstration plots to demonstrate efficiency of weed control	11,025 new farmers have knowledge of and access to appropriate herbicides to manage weed pressure using less labor intensive methods 297 hectares have lower weed pressure due to application of herbicides	Women and youth farmers will benefit from demonstrations and trainings
Farmers continue to cultivate rice in the uplands due to high costs of opening up lowlands	Support new farmers cultivating lowland rice	Recruit 7,175 lowland farmers to produce upland during FY15	7,175 new farmers producing lowland rice 1,908 new hectares under lowland rice production 7,632 MT of lowland rice produced	Ensure farmer recruitment is 50 percent women and 45 percent youth
Lowland rice farmers have limited access to improved seed varieties	Ensure that the 22 rice seed multiplication sites established in FY14 are certified by Africa Rice and WAAPP as compliant to seed multiplication protocols	Africa Rice and WAAPP inspect and certify 22 rice seed multiplication sites	22 rice multiplication sites produce 400 MT of improved rice seed	Involve women and youth in rice seed multiplication management
	17 trained seed inspectors monitor RSM sites to ensure certification protocols are adhered to	Retain 17 seed inspectors to continue routine inspections of RSM sites	RSM sites produce an average of 400 MT of Africa Rice-certified improved rice seed per year	Involve women and youth in the management of RSM sites
	Establish the current demand for rice seeds in Liberia	Document actual demand for lowland rice seeds in Liberia through a survey with buyers	Liberia rice seed demand established	Survey targets women and youth participating in rice production

		and suppliers (M&E)		
	Private sector firms engaged to produce, market and distribute rice seed	<p>Support one seed company to develop business plans to brand rice seed</p> <p>Support private sector seed company through cost-share to establish infrastructure for rice seed marketing</p> <p>Identify at least 100 out-growers to be supported by the seed company</p>	<p>One seed company invests a minimum of \$25,000 USD in rice seed production and marketing</p> <p>At least 100 out-growers are producing rice seeds for the private sector seed company</p>	<p>Target women entrepreneurs for rice seed production and marketing</p> <p>At least 50 percent of outgrowers recruited will be women and 45 percent are youth</p>
	Provide farmers with improved seed varieties for lowland rice production	<p>Establish 191 hectares of new demonstration plots (0.5 hectares of demo established for every 5 hectares planted)</p> <p>Distribute 7.64 MT of Nerica L-19 seeds to plant (seeding rate of 40 kg per hectare)</p>	<p>7,175 lowland rice farmers have access to improved seeds and are producing lowland rice using improved methods</p> <p>191 hectares demonstrate improved yields through the use of improved seed varieties</p>	Provide women and youth farmers access to improved seed varieties, training and extension
Lowland rice production is poorly mechanized and is labor-intensive	Provide farmers with access to mechanization to include power saws, power tillers, paddy drum seeders, and cono-weeders	<p>Identify at least 30 youth entrepreneurs to become on-demand machine operators</p> <p>Distribute 30 power tillers to the youth entrepreneurs through cost-sharing arrangements</p> <p>Hire power saw operators to assist with de-stumping and clearing of new lowlands</p> <p>Procure and distribute eight paddy drum seeders and eight cono-weeders to the four counties for demonstrations</p>	<p>30 new MSMEs established</p> <p>7,175 farmers have access to mechanized services</p> <p>1,908 hectares of new lowlands cleared and prepared for rice production</p>	Prioritize the selection of women and youth entrepreneurs
Lowland rice	Document	Complete fertilization	Fertilizer application	Prioritize women and

farmers do not apply inputs such as fertilizer, herbicides and pesticides	fertilization requirements for the counties based on soil sample analysis and testing	determination for USAID FED-supported counties according to soil testing analysis and results	in FY15 takes into consideration actual soil nutrient requirements	youth in linkages to financial services and agro-input suppliers
	Use extension material to encourage farmers to use inputs	Provide farmer groups with leaf color charts to determine nitrogen requirements for their individual farms in a cost effective manner Train farmers and extension officers on the use of the charts	7,175 farmers are able to determine nitrogen requirements in a cost-effective manner	Prioritize women and youth farmers in trainings and use of charts
	Document the results of UDP trials for dissemination to stakeholders	Monitor yield variance of 150 hectares under T1, T2 and T3 UDP trial sites as well as the 89 hectares under UDP only	Yield variances for UDP three-treatment trial sites as well as the UDP only sites are shared with stakeholders	
	Provide farmers with access to fertilizer	Create awareness on benefits of fertilizer application through extension material and radio programs Supply 60 MT of Triple Super Phosphate (TSP), Muriate of Potash (MOP), urea briquette and urea fertilizer to 191 demonstration plots Link farmer groups to financial service providers and agro-input suppliers to improve access to fertilizer	7,175 farmers have knowledge of and access to fertilizer and financial services 191 hectares are under demonstration and will produce a minimum of 4 MT of rice per hectare as a result of fertilizer application	Prioritize women and youth in linkages to financial services and agro-input suppliers
	Provide farmers with access to acceptable herbicide to control pre- and post- emergence of weeds	Develop extension material for distribution to extension officers, local NGOs and farmers Supply 3,056 liters of appropriate herbicide combinations and fertilizer and apply on 191 demonstration plots	7,175 new farmers have knowledge of and access to appropriate herbicides to manage weed pressure using less labor-intensive methods 191 hectares under demonstration have lower weed pressure	Women and youth farmers will benefit from demonstrations and trainings

			due to application of herbicides	
	Assess and monitor pests and disease during the different crop stages	<p>Carry out surveillance and documentation of pests and disease prevalence at different cropping stages</p> <p>Complete assessment of pesticide requirements based on surveillance</p> <p>Develop extension material for distribution to extension officers, LNGOs and farmers</p> <p>Supply 382 liters of pesticides to 191 demonstration plots for trials</p>	<p>7,175 farmers have knowledge of pest and disease management</p> <p>191 hectares demonstrate lower pest and disease prevalence through management and pesticide application</p>	Women and youth farmers will benefit from demonstrations and trainings
Production of lowland rice is based on a single crop due to lack of water management infrastructure	Support the establishment of irrigation spillways and head dikes in the four core counties	<p>Identify new sites with access to year-round water supply</p> <p>Construct 12 new irrigation spillways</p>	12 sites have the ability to produce two crops per year on 50 hectares of lowland	Prioritize the sites and farmer groups with large numbers of women and youth
	Pilot testing of rice intensification through cropping systems	Provide extension officers, LNGOs and lead farmers with training on irrigated rice, fallow rice, rice fallow pulse, rationing on demonstration sites	7,175 lowland farmers have knowledge of different cropping systems application through demo sites	Women and youth farmers will benefit from demonstrations and trainings
Poor post-harvest practices	Establish community rice business hubs in newly identified clusters	<p>Identify at least 10 new community rice business hubs</p> <p>Support the rehabilitation and equipping of identified community rice business hubs</p> <p>Train community rice business hubs on management of operations</p> <p>Link farmers to services provided by established community rice business hubs</p>	<p>10 new rice business operating efficiently and profitably</p> <p>18,200 new rice farmers have access to aggregation, storage, milling and market outlets within the clusters</p>	Prioritize women and youth farming groups during establishment of rice business hubs

Entrepreneurs do not have incentives to invest in rice production	Recruit large scale land owners in the counties to cultivate lowland rice	<p>Identify at least three large-scale land owners to cultivate lowland rice production on a minimum of 100 hectares a each</p> <p>Provide at least large-scale land owners with technical assistance toward business plan development and planning of production</p> <p>Support commercial rice production in large contiguous areas in partnership with at least three large Liberian land owners and link these land owners to industrial processors for contract farming</p>	<p>Three large-scale land owners are investing in lowland rice production on 300 hectares of land</p> <p>Three large-scale land owners can supply at least 1,200 MT of rice to industrial processors</p>	Prioritize women and youth entrepreneurs and land owners
There is a limited number of industrial processors	Link Fabrar Liberia to USAID FED-supported farmers in the four counties to source paddy rice for industrial processing	Link 19,389 continuing farmers from FY14 and 18,200 new farmers supported in FY15 to Fabrar Liberia	<p>At least 30 percent of the anticipated 13,562 MT of paddy rice is accessible to industrial processors</p> <p>At least US\$1.6 million of rice traded</p>	Women and youth farmers will benefit from market linkages
	Assist Fabrar Liberia in accessing potential buyers of processed rice	Link Fabrar Liberia to government agencies and other institutional buyers	At least 9,000 bags of rice supplied to institutional buyers in FY15	
	Engage partnership with Wienco to retail rice	Establish a Global Development Alliance (GDA) with Wienco on cost-share investment mechanisms for rice processing	Wienco invests at least US\$250,000 on retail rice supply chain through its outgrowers	

2. Work Breakdown Structure for Task 1A

Activity 1.A.1 Improving productivity and profitability of upland rice

Task 1.A.1.1 Identify and recruit 11,025 new upland farmers to produce upland rice in FY15

Task 1.A.1.2 Recruit Local NGOs to provide implementation support to upland rice farmers

Task 1.A.1.3 Establish 297 hectares of new demonstration sites (0.5 hectare for every 5 hectares of area)

Task 1.A.1.4 Train 593 lead farmers on improved upland rice production techniques

Task I.A.1.5 Develop and disseminate extension material on upland rice production practices

Task I.A.1.6 Procure and distribute 17.74 MT of Nerica -14 seeds for 297 hectares of new demonstration sites

Task I.A.1.7 Procure and distribute 60 MT of fertilizer for 297 hectares of new demonstration sites; and procure and distribute 8.91 MT of peanuts and 4.55 MT of cowpea to another 297 hectares alongside the rice demonstration farms.

Task I.A.1.8 Procure and distribute 4,752 liters of herbicides for 297 hectares of new demonstration sites

Task I.A.1.9 Link upland rice farmers to financial service providers and agro-input suppliers

Activity I.A.2 Expanding lowland rice production

Task I.A.2.1 Identify and recruit 7,175 new lowland farmers to produce lowland rice in FY15

Task I.A.2.2 Recruit local NGOs to provide implementation support to lowland rice farmers

Task I.A.2.3 Establish 191 hectares of new demonstration sites (0.5 hectare for every 5-hectare area)

Task I.A.2.4 Train 382 lead farmers on lowland rice production practices

Task I.A.2.5 Develop and disseminate extension material on lowland rice production practices

Task I.A.2.6 Procure and distribute 7.64 MT of Nerica L -19 seeds for 191 hectares of new demonstration sites

Task I.A.2.7 Procure and distribute 60 MT of TSP, MOP, urea briquette, and urea fertilizer to 191 demonstration sites

Task I.A.2.8 Procure and distribute 3052 L of herbicides for 191 demonstration sites

Task I.A.2.9 Procure and distribute 382 L of pesticides for 191 demonstration and trial sites

Task I.A.2.10 Link lowland rice farmers to financial service providers and agro-input suppliers

Activity I.A.3 Enhancing mechanization for lowland rice production

Task I.A.3.1 Identify 30 youth entrepreneurs to invest as machine operators

Task I.A.3.2 Distribute 30 power tillers to identified entrepreneurs through cost-share arrangements

Task I.A.3.3 Train 30 youth entrepreneurs on power tiller operations

Task I.A.3.4 Sub-contract power saw operators to assist with de-stumping and clearing of new lowlands

Task I.A.3.5 Supply 20 paddy drum seeders for demonstration trials

Task I.A.3.6 Procure and distribute 20 cono-weeders for demonstration trials

Activity I.A.4 Promoting use of fertilizers in upland and lowland rice production

Task I.A.4.1 Create awareness on benefits of fertilizer use via extension material and radio programs

Task I.A.4.2 Distribute leaf color charts for use as reference to determine nitrogen requirements

Task I.A.4.3 Train 976 upland and lowland lead farmers, LNGOs and extension officers on the use of leaf color charts

Activity I.A.5 Promoting two rice crops per year

Task I.A.5.1 Identify new rice production sites with access to year-round water supply

Task I.A.5.2 Construct 12 new irrigation spillways and head dikes

Task I.A.5.3 Identify and establish four UDP-SRI trial sites and document trial results

Task I.A.5.4 Train extension officers, LNGOs and lead farmers on irrigated rice, rice fallows, rice fallow pulse, and rationing on demonstration sites

Activity I.A.6 Enhancing post-harvest management practices

Task I.A.6.1 Identify 10 new community rice business hubs sites

Task I.A.6.2 Construct and equip identified community rice business hubs

Task I.A.6.3 Train community rice business hubs on business management of operations

Task I.A.6.4 Link farmers to services provided by establishing community rice business hubs

Activity I.A.7 Stimulating private sector investment in commercial rice production

Task I.A.7.1 Identify three large-scale Liberian landowners to cultivate 300 hectares lowland rice

Task I.A.7.2 Provide technical assistance to three large-scale rice growers to develop business plans

Task I.A.7.3 Provide cost-share and access to financing to three large Liberian landowners

Task I.A.7.4 Facilitate contract farming agreements between Fabrar and three large-scale rice growers

Task I.A.7.5 Facilitate linkages between Fabrar, government agencies and institutional buyers

Task I.A.7.6 Establish cost-share investment under GDA with Wienco for expanding rice processing

3. Mainstreaming Gender, Youth, ICT and Environmental Compliance

Women are mostly responsible for planting, maintenance, harvesting and processing of rice. The approach within the clusters will deliberately target women and youth in recruitment, training, enterprise development and access to finance. Industrial rice processing could cause environmental issues if not properly mitigated. Therefore, the rice value chain team will consult with the environmental team to identify potential issues and train the processors on how to mitigate those issues. This due diligence will form part of MOU agreements and activity development. The appropriate Information Communication Technology (ICT) tools and technologies will be applied during implementation of rice value chain activities. This will include hand-held GPS units for mapping, PDAs for information gathering as well as nationwide radio programs for dissemination of rice related knowledge information.

4. Geographic Plans

4.1 Upland rice production

Upland rice	Beneficiaries	Hectares (ha)	Production (MT)
Bong	4,060	2,030	4,060
Nimba	4,550	182	364
Lofa	1,750	420	840
Grand Bassa	665	332.5	665
TOTAL	11,025	2,964.5	5,929

4.2 Lowland rice production

Lowland rice	Beneficiaries	Hectares (ha)	Production (MT)
Bong	1,400	700	2,800
Nimba	4,060	812	3,248
Lofa	1,400	350	1,400

Grand Bassa	315	46.2	184.8
TOTAL	7,175	1,908.2	7,632.8

5. Risk Analysis and Mitigation Plan

Deliverable	Target Completion	Responsible Staff	Risk	Mitigation Strategy
Improving productivity and profitability of upland rice	September 2015	Rice value chain Manager, Rice Officer	<p>Medium to high: Recruitment of FY15 beneficiaries and identification of sites may be delayed in counties highly affected by Ebola</p> <p>LNGOs may not be ready to operate during the Ebola crisis period</p>	<p>Recruitment will start by prioritizing areas least affected by Ebola</p> <p>Identification of LNGOs will also consider those involved in Ebola messaging</p>
Expanding lowland rice production	September 2015	Rice value chain Manager, Rice Officer	<p>Medium to high: Recruitment of FY15 beneficiaries and identification of sites may be delayed in counties highly affected by Ebola</p> <p>LNGOs may not be ready to operate during the Ebola crisis period</p> <p>Monitoring and technical backstopping for lead farmers and farming groups may not be effective in high risk areas due to Ebola</p>	<p>Recruitment will start by prioritizing areas least affected by Ebola</p> <p>Identification of LNGOs will also consider those involved in Ebola messaging</p> <p>Provide early training to lead farmers in different aspects of production and production technology</p>
Enhancing mechanization for lowland rice production	September 2015	Rice value chain Manager, Rice Officer, Rice Technical Specialist (STTA)	<p>Low to medium: Identification of private entrepreneur to invest in mechanization equipment and</p>	<p>Early preparation in low risk areas and early training to farmers before land preparation commences</p>

			farmers understanding of cost-benefit analysis (human labor vs. machine)	
Promoting use of fertilizers in upland and lowland rice production	September 2015	Rice value chain Manager, Rice Officer Rice Technical Specialist (STTA)	Low to medium: The availability of selective fertilizers in country by vendor in a timely fashion may be delayed due to limited influx of vessels to Liberia due to the current Ebola crisis	Early preparation and vendor engagement as well as possible fertilizer mix as substitute in the case of contingency
Facilitating access to improved seed varieties	September 2015	Rice Value Chain Manager and Irrigation Specialist, Rice Technical Specialist (STTA)	High to medium: Getting foundation seeds in country and ensuring current seeds certification is completed by Africa Rice due to the current situation	Early preparation and engagement with stakeholders
Promoting two rice crops per year	September 2015	Rice value chain Manager, Irrigation Specialist	Low to Medium: identification of sites may be delayed in counties highly affected by Ebola LNGOs may not be ready to operate during the Ebola crisis period	Recruitment will start by prioritizing areas least affected by Ebola Identification of LNGOs will also consider those involved in Ebola messaging
Enhancing post-harvest management practices	September 2015	Rice Value Chain Manager; Rice Technical Specialist (STTA)	Low to medium: Having post-harvest handling expertise through STTA may not be possible due to the current Ebola situation	Post-harvest handling training may be needed as early as possible for lead farmers to provide support to other farmers
Stimulating private sector investment in commercial rice production	September 2015	Rice Value Chain Manager	High to medium: Identification of large-scale private sector players with the ability to significantly invest in the agriculture sector may be a	Develop attractive cost-sharing strategies that will drive private sector investment

			challenge	
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6. Partnerships

USAID FED will strengthen partnership with the following entities:

- Ministry of Agriculture: To establish a regulatory body that will enforce seed regulations and the implementation of the seed certification program.
- CARI: To access improved seed varieties.
- WAAPP and West Africa Seed Project (WASP): To implement the seed regulation and develop the seed certification program.
- WAFP: To assist in fertilization recommendations and soil mapping.
- Africa Rice: To assist with improved seed varieties and rice seed multiplication.
- Fabrar Liberia: To improve rice processing and marketing in Liberia.
- Wienco: To improve rice processing and marketing in Liberia (GDA).
- Ministry of Commerce and Industry: To promote locally processed Liberian rice among government agencies and the public.
- WFP: To assist with improving and creating a market for Liberian rice.

Task 1B: Increased Productivity and Profitability of Cassava Value Chain

A. The Challenge

Cassava is Liberia's second staple crop and one of the primary sources of income for rural farmers. Cassava plays a role in food security, especially since it can be harvested before the rice harvest and is often planted as a follow-on crop to rice. The total production in 2010 was estimated at 493,000 MT¹⁰, most of which were consumed at the household level or traded locally at the surrounding community markets.

Some of the key challenges include the limited availability and access to high-yielding and disease-resistant planting material, poor production practices (i.e. no intercropping or mounds and ridges), poorly equipped processing enterprises, a low supply of tubers for processing and little diversification in product development. Most farmers focus on *gari* production. The lack of high-yielding and disease-resistant varieties coupled with poor agronomic practices contribute to low yields, leads to current estimates between 4 and 5 MT per hectare.

Cassava is mainly harvested over a period of six months, which leads to irregularities in the supply chain. This insufficiency of volumes required to optimally operate processing plants renders cassava processing uncompetitive and unprofitable. In addition, poor infrastructure, bad roads, and high costs to transport bulky tubers limit the competitiveness of cassava enterprises.

¹⁰ Liberia Agricultural and Crop Production, LISGIS, 2010

The few existing processors, mainly women, lack access to modern processing equipment and have limited knowledge about processing quality products as well as information on market opportunities. They also lack financial and business skills, limiting their ability to think beyond a single business line. Access to formal financing is lacking because of the absence of assets for collateral.

B. FED LOP Objective and Status

I. LOP Objectives and Targets

The main objective of the USAID FED project is to increase the competitiveness of the cassava value chain through increased production of quality cassava products, reducing post-harvest losses and expanding processing capacities at micro and small enterprise levels. During the life of the project, 40,000 cassava farmers will receive support to access improved and good quality planting material to enable them to obtain higher yields. These 40,000 farmers will apply improved technologies, such as mounds and ridges, in cassava production on at least 7,500 hectares.

To ensure sustainable access to improved planting materials of the varieties required by buyers, USAID FED will support the importation, screening, multiplying and distribution of improved cassava varieties, and promotion of commercial production of clean and disease-resistant planting materials from 40 nurseries. USAID FED will also support 29 micro processing enterprises in the counties and four small-medium processing enterprises based in Monrovia to absorb increased yields of cassava farmers and to enable them to operate more profitably.

2. Milestones in FY14

2.1 Improved productivity

Quadrant testing of cassava produced on demonstration sites established in FY14 revealed that productivity has increased from an average of 4-to-5 MT per hectare to 10 MT per hectare. This improved productivity can be attributed to good agronomic practices, primarily the use of mounds and ridges promoted by USAID FED.

2.2 Harvesting of FY13 cassava crop

In FY13, 5,935 cassava farmers supported by USAID FED were trained on good agronomic practices on 194 hectares. In FY14, these farmers sold 656 MT of cassava tubers from 50 hectares for US\$106,366. Harvesting of FY13 crop will continue through Q1 of FY15.

2.3 Production of FY14 cassava crop

In FY14, USAID FED assisted 12,000 new cassava farmers in Bong (2,400), Nimba (4,800), Lofa (1,200) and Grand Bassa (3,600) counties. These cassava farmers are organized around the *kuu*, a traditional labor system that supports sharing of farm labor among members of the community. A total of 600 *kuus* were supported to establish 0.25-hectare demonstration plots, where improved technologies such as mounds and ridges were shown to *kuu* members. The *kuu* leader took on the role as lead farmer. These farmers applied new technologies such as improved planting materials and techniques on 2,100 hectares

of land and demonstrated ISFM through crop rotation with peanuts and cow peas on the plots of the lead farmers.

2.4 Establishment of commercial cassava nurseries

In FY14, USAID FED trained 40 commercial cutting producers (33 men and 7 women) and assisted them in establishing 40 nurseries on 60 hectares of land. The nurseries are located in Nimba (24 hectares), Grand Bassa (18 hectares), Bong (12 hectares) and Lofa (6 hectares) counties. The nurseries are expected to start selling improved cassava cuttings by May 2015. USAID FED estimates that nursery production could supply over 25,000 cassava farmers.

2.5 Importation of improved cassava cuttings

In FY14, the International Institute for Tropical Agriculture (IITA) delivered a total of 44,000 cassava cuttings of 11 improved varieties to CARI. Of these, 34,000 cuttings are under screening at two controlled sites in Lofa County, while 10,000 cuttings are at CARI in Bong County. Protocols for screening of the varieties were developed by IITA and CARI. Technicians from CARI continue to provide technical oversight, and the final inspections for adaptability, environmental stresses, disease resistance and suitability for further multiplication will be conducted by IITA experts in FY15.

2.6 Supporting cassava processing enterprises

In FY14, the agro-impact study on cassava marketing¹¹ commissioned by USAID FED and Dutch development group ZOA was completed. This study recommended four business models ranging from micro to industrial processing that could be developed with value-chain stakeholders in Liberia. USAID FED hired a processing enterprise specialist and a cassava enterprise development officer to support processing and market development interventions.

A total of 23 micro and small processing enterprises were evaluated across the four counties to assess their baseline profitability as well as their ability to co-invest in upgrading their processing facility. In addition, 11 SME processors based in Monrovia were assessed as potential buyers of cassava tubers. Four of these companies have expressed interest in buying cassava from USAID FED-supported farmers. In FY15, USAID FED will support these processors by linking them to FED-supported cassava farmers.

2.7 Access to financial services

In FY14, a total of 32 continuing cassava groups participated in USAID FED's VSLA program. The groups disbursed a total of US\$41,818.00 in loans that benefitted 767 cassava farmers.

3. Major Challenges in Programmatic Implementation

One of the major challenges experienced during FY14 implementation was the high demand for tools for the 600 *kuus* to complete proper land preparation with mounds and ridges. While neither the FY14 Work Plan nor MOUs signed with cassava clusters included the donation of farming tools, USAID FED was compelled to meet this need to ensure that farmers were able to apply improved technologies in a timely manner. Based on this experience, essential tools will be provided in FY15 to new cassava farmer beneficiaries.

¹¹ National Cassava Market Assessment; USAID FED, ZOA Liberia and European Union, 2014

The importation and delivery of improved cassava varieties from IITA in Nigeria took longer than expected. The screening of the cuttings has progressed successfully in collaboration with CARI. USAID FED documented lessons on importation protocols in collaboration with the relevant government agencies.

The interventions in the cassava value chain in FY14 focused on creating access to improved varieties and the adoption of improved technologies by farmers.

The identification and assessments of cassava processors took longer than expected due to difficulties in locating micro and small enterprises that are willing to make cost-sharing agreements on the required processing equipment.

4. Lessons Learned in FY14

Farmers traditionally plant cassava between the months of June and November. However, processors need cassava tubers all year round. In FY15, USAID FED should pilot the cultivation of cassava on a year-round basis. Planting should be staggered, allowing planting and harvesting to occur each month. This way, cassava production will increase and give processors a guaranteed crop each month.

Land preparation for cassava production is labor-intensive and requires tools. In FY15, all newly identified cassava farmers should be provided with basic tools to ensure that they are able to build mounds and ridges. By utilizing the *kuu* system, a large number of farmers can meet labor requirements and receive the requisite training on improved technologies.

Importation and screening of improved varieties require closer collaboration and strict adherence to protocols issued by the MoA to ensure smoother access to improved planting material. In FY14, the program experienced challenges during the screening process as a result of misunderstandings of the procedures between USAID FED and the MoA. Strong and healthy partnerships with MoA, CARI and IITA will ensure a smooth transition and success in cassava cutting multiplication.

In order to ensure that the increased production of tubers is sold to the markets, platforms should be created in order to absorb the excess tubers. The program should support micro and small enterprises within the clusters to ensure timely sale of tubers and incomes for farmers. The support is also seen to help narrow the gap between supply and demand. Further, there is a need to support aggregation and transportation of cassava tubers due to the bulky nature of the product. Supporting the establishment of aggregation points and transportation infrastructure will give farmers options to transport their harvests to micro and small processors within the clusters.

Due to the ebola crisis, the availability of food such as rice has decreased due to travel restrictions and the closure of county borders. A decrease in the availability of rice during the rainy season is also an annual occurrence. As a result, households within the clusters are increasingly consuming larger amounts of cassava as the tubers are readily available at the farm level. This trend is contributing to food security during the crisis period. Engaging the micro-processors in Q1 of FY15 is crucial in order to

ensure food security for rural households within cassava production clusters. Small and medium processors based in Monrovia may have difficulty procuring cassava tubers due to the high transportation costs, but micro and small rural processors will have access to tubers and can play a significant role in aggregation and sale in the local markets.

C. Approach to Achieve LOP Targets/Objectives and FY15 Objectives

I. Strategy for FY15 and FY16

In FY15 and FY16, USAID FED will scale up the production of improved varieties by supporting 40,000 cassava farmers. In FY15, USAID FED will support 12,960 new farmers in the application of improved cassava production technologies on 3,240 hectares. The program will provide these farmers with essential tools and training on improved technologies.

Farmers will be assisted to stagger cassava planting in order to ensure year-round production of cassava. Each farmer will plant at least 0.25 hectares of land using the *kuu* system, which reduces costs of labor during land preparation, planting, weeding and harvesting, and also ensures that the rest of the *kuu* member-farmers receive training on improved technologies. USAID FED will also establish a demonstration site on 0.5 hectares in each cluster (*kuu*) to showcase improved cassava production technologies and ISFM.

Approximately 5,500 hectares will be cultivated using improved technologies, including the 2,300 hectares cultivated in FY14 and FY13.

FY13 and FY14 beneficiaries will continue to receive program support to access markets, technical assistance, access to finance and basic business training.

USAID FED will link cassava farmers to the 40 commercial cassava nurseries in order to ensure a market for high-quality cassava cuttings while giving farmers access to improved planting material in the counties. USAID FED will also support the nurseries in multiplying the improved cassava varieties that are screened and released by CARI and IITA.

To ensure that these increased amounts of tubers reach local markets, USAID FED will develop marketing platforms around micro and small processors at the county level and medium-sized processors in Monrovia. Farmers will be provided with market information on the varieties required by local and Monrovia-based buyers. Efforts will be made toward piloting embedded services through the network of micro-processors. The sustainability of these strategies hinges upon win-win arrangements that assure profitability up and down the value chain.

USAID FED will continue to work with existing and new partners such as the National Cassava Office, ZOA and the West African Agriculture Productivity Program (WAAPP) to further coordination, networking, knowledge-sharing and advocacy efforts in the cassava sub subsector. Only a collective effort will allow an increased number of cassava farmers and value chain actors both within and outside

of USAID FED-supported counties to benefit from technical knowledge, improved technologies, and market linkages to support increased processing and access to financial services.

2. FY15 Anticipated Achievements

- 11 imported improved cassava varieties are successfully screened and selected genotypes released by CARI and IITA for multiplication within Liberia.
- 40 commercial nurseries are supplying improved and good quality planting materials to 25,000 cassava farmers.
- 12,960 new farmers representing 648 newly established clusters receive training in good agronomic practices on demonstration sites totaling 324 hectares.
- 12,960 new farmers establish mounds and ridges and plant improved varieties of cassava on at least 3,564 hectares.
- 12,000 continuing farmers are linked to 29 micro-processors within the counties to ensure that they have access to buyers and options for embedded services.
- 29 micro-processors have increased their procurement of raw tuber from 1 MT to 2 MT per month and increase their sales by 50 percent (volume) and from US\$1,500 to \$2,250 (value).
- Four processing enterprises based in Monrovia increase their procurement of raw tuber from 3 MT to 7 MT per month and increase their sales from US\$3,300 to US\$7,700.
- FY13 and FY14 farmers earn at least US\$840,000 from sales of at least 6,100MT of cassava tubers in FY15.

3. FY15 Indicators and Targets

Deliverables	FY15		
	Total	Women (50 percent)	Youth (45 percent)
Total production by direct beneficiaries (MT)	35,640 MT ¹²	17,820 MT	16,038 MT
Total value of sales	US\$840,000	US\$420,000	US\$378,000
Volume of sales	6,100 MT	3,050 MT	2,745 MT
Number of rural households benefitting directly from USG interventions	12,960	6,480	5,832
Number of farmers and others who have applied new technologies and management practices as a result of USG assistance	12,960	6,480	5,832

¹² Assuming that farmers realize 10 MT of cassava tuber per ha on 3,240 ha of farmer field and 324 ha of demo plots planted

Number of hectares under new technologies or management practices as a result of USG assistance	3,564 ¹³	1,782	1,604
Number of private enterprises, producers organizations, women's groups, trade and business associations and community-based organizations (CBOs) receiving USG assistance	721 ¹⁴	361	325
Number of private enterprises, producer organizations, women's groups, trade and business associations and CBOs that applied new technology or management practices as a result of USG assistance	721	361	325
Total increase in installed storage capacity (M ³)	6,700	3,350	3,000
Number of farmers and others having access to improved seeds/planting materials	30,573 ¹⁵	15,287	13,758
Number of individuals receiving nutrition messages within agricultural programs as a result of USG assistance	12,960	6,480	5,832
Number of HHs with improved diet diversity as a result of USG assistance	7,776 ¹⁶	3,888	3,499
Total increase in milling capacity for crop processing (MT)	91 MT	46	40
Reduction in Percentage of post-harvest losses (%)	5	5	5
Value of incremental sales (collected at the farm level) attributed to FtF	US\$840,000	US\$420,000	US\$378,000
Value of new private sector investment in the agri sector or food chain leveraged by FtF implementation	US \$201,000 ¹⁷	US \$100,500	US \$90,450
Number of jobs attributed to FtF implementation	543 ¹⁸	272	244
Number of public-private partnerships formed as a result of FtF assistance	721	361	325
Number of MSMEs, including farmers, receiving business development services from USG-assisted sources	12,993 ¹⁹	6,497	5,847

¹³ Each farmer is anticipated to plant cassava on at least 0.25 hectares and each *kuu* 0.5 hectares of demo plot

¹⁴ Includes 648 *kuus*, 40 commercial nurseries, 29 micro-processors, 4 small and medium processors

¹⁵ Includes 522 continuing farmers from FY12; 5,091 continuing farmers from FY13; and 12, 000 continuing farmers from FY14

¹⁶ Assuming that 60 percent of the cassava farmers will diversify diets as a result of behavior change

¹⁷ Represents beneficiary contribution for micro and small processors identified as part of CLIN01-MDF-0150

¹⁸ Considering 29 micro-processors employing an average of seven persons each; four small processors employing an average of 15 persons; 40 nurseries employing an average of seven persons each;

¹⁹ Includes 12,960 farmers, 29 micro-processors and 4 small processors

Total amount of financing (cash and in-kind) accessed by farmers and agribusinesses through formal, informal, and embedded services.	US\$128,668	US\$64,334	US\$57,901
Number of MSMEs, including farmers, receiving USG assistance to access loans	324	162	146
Number of firms (excluding farms) or Civil Society Organizations (CSOs) engaged in agricultural and food security-related manufacturing and services now operating more profitably (at or above cost) because of USG assistance	33	17	15
Number of individuals who have received USG supported short-term agricultural sector productivity or food security training	13,024	6,512	5,861

D. FY15 Work Plan

I. Results Framework for Task 1B

Constraint	Proposed Solutions	Key Activities	Outcomes FY15	Women & Youth involvement
Current varieties of cassava are low-yielding	Create access to improved varieties	Complete screening of 11 improved varieties Select and release adaptable varieties through CARI	Suitable varieties for Liberia's conditions are released for multiplication	Women and youth are employed to carry out day-to-day management of the nurseries
There is limited availability of improved varieties	Create access to improved varieties for commercial multiplication	Distribute released varieties to 40 established commercial nurseries for multiplication Link existing and new <i>kuus</i> to established commercial nurseries for access to improved varieties	Improved varieties that are high-yielding and less prone to disease are available to 30,573 continuing and new farmers	Women and youth are involved in commercial multiplication of cuttings
There is lack of knowledge on improved technologies and varieties	Provide adequate information and training on improved technologies and varieties	Develop extension material and radio programs about improved technologies and	Extension material is available to 648 <i>kuus</i> 12,960 new farmers have access to	Prioritize women and youth with Extension material and training

		<p>varieties (Extension)</p> <p>Mobilize 12,960 new farmers in 648 <i>kuus</i> for cassava production and disseminate material to extension staff and <i>kuus</i></p> <p>Conduct training for 648 <i>kuu</i> leaders on application of improved technologies, e.g., good agriculture practices and ISFM</p> <p>Link <i>kuus</i> to established commercial nurseries for access to improved varieties</p>	<p>training and information</p> <p>3,240 hectares are planted with improved technologies in FY15 in a staggered manner</p> <p>12,960 farmers have access to improved planting material</p>	<p>Assure that farmer recruitment reflects 50 percent women and 45 percent youth</p>
<p>Farmers have limited information on market requirements</p>	<p>Improve awareness on market requirements through market exposure visits, buyer-seller meetings and the establishment of market platforms</p>	<p>Identify micro and small processors and their purchasing needs</p> <p>Provide clusters with information on markets, varieties required, volumes and prices</p> <p>Link cassava clusters to identified aggregators, micro and small processors</p> <p>Link processors to end-market channels such as retail, and consumer outlets for processed cassava products</p>	<p>12,960 farmers have access to market information, are producing the required varieties and are trading with at least 29 identified micro-processors</p> <p>Aggregators are linked to micro-processors</p> <p>Four small and medium enterprises in Monrovia are sourcing cassava from micro-processors and aggregators</p> <p>29 micro-processors are linked to end-market channels</p>	<p>Women and youth are targeted both as farmers, aggregators and processors</p>
<p>Processors lack the access to finance needed to equip processing centers and establish storage facilities</p>	<p>Enhance the ability of processors to access financial services</p>	<p>Collect baselines on 16 micro and small processors' outputs, hardware requirements and financial needs</p>	<p>16 micro and small processors have invested US\$201,000 in FY15 to expand processing capacities</p>	<p>Target women and youth both as farmers and processors</p>

		<p>Procure processing equipment and distribute to 16 micro and small processors on cost-share basis</p> <p>Train 33 micro and small processors on business management</p> <p>Link processors to financial service providers through Component Two</p>	16 processors are operating more efficiently and profitably	
Post-harvest losses are high	Support the improvement of post-harvest management practices across the value chain	<p>Develop extension material and radio programs on post-harvest management practices (Extension)</p> <p>Disseminate material to extension staff, <i>kuu</i> leaders and processors</p> <p>Conduct training for 648 <i>kuu</i> leaders and processors on post-harvest management practices.</p>	Post-harvest losses are reduced by 5 percent	Target women and youth with extension material and training
Transport costs are high	Facilitate aggregation capacity and transportation between farm gate and processors	<p>Identify youth as transportation entrepreneurs (Youth in Agribusiness)</p> <p>Assess capital requirements of identified youth entrepreneurs</p> <p>Train youth on entrepreneurship and business skills</p> <p>Procure and distribute <i>tuk-tuks</i> (auto rickshaw) to youth on cost-share basis</p>	<p>29 youth operating profitable fee-based transportation service</p> <p>30,573 cassava farmers have access to aggregation and affordable transportation</p>	Target women and youth to provide transport services

		Link youth to the 29 micro- processors and production clusters		
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2. Work Breakdown Structure for Task 1B

Activity I.B.1 Facilitating access to high-yielding cassava varieties

Task I.B.1.1 Screening of cassava cuttings on two sites in Lofa through collaboration with CARI

Task I.B.1.2 Inspections conducted by CARI and IITA to assess adaptability of varieties

Task I.B.1.3 Suitable varieties released for multiplication

Activity I.B.2. Enhancing availability of improved varieties for multiplication

Task I.B.2.1 Identification of requirements of the cassava cuttings for 40 commercial nurseries

Task I.B.2.2 Identification of released varieties suitable for the market's requirements

Task I.B.2.3 Distribution of improved cuttings to commercial nurseries

Task I.B.2.4 Organize meetings to link new and continuing cassava farmers to commercial nurseries

Activity I.B.3 Enhancing knowledge on improved technologies and varieties

Task I.B.3.1 Develop extension material and radio programs on improved technologies and varieties

Task I.B.3.2 Identify and recruit 12,960 new farmers in 648 *kuus* for FY15 cassava production

Task I.B.3.3 Train 648 *kuu* leaders on GAP and ISFM and disseminate extension material

Activity I.B.4 Improving access to market information and markets

Task I.B.4.1 Identify 29 micro and small processors within the cassava clusters and their purchasing needs

Task I.B.4.2 Provide cassava clusters with market information on varieties required, volumes and prices

Task I.B.4.3 Organize meetings between identified processors and cassava clusters to develop trade linkages

Activity I.B.5 Facilitating access to financial services for processors

Task I.B.5.1 Determine baselines, hardware and financial needs for 16 micro and small processors

Task I.B.5.2 Procure and distribute processing equipment for 16 micro, small processors on cost-sharing

Task I.B.5.3 Train 29 micro-processors, four small processors on processing and business management practices

Task I.B.5.4 Link processors to financial service providers through Component Two

Task I.B.5.5 Link processors to end-market channels via buyer-seller meetings and sponsoring facility visits

Task I.B.5.6 Monitor efficiency of operations and profitability of processors

Activity I.B.6 Reducing post-harvest losses in cassava value chain

Task I.B.6.1 Enhance extension materials and develop radio programs on post-harvest management practices

Task I.B.6.2 Disseminate extension material to extension staff, *kuus* and supported processors

Task I.B.6.3 Train 648 *kuu* leaders and 33 processors on post-harvest management practices

Task I.B.6.4 Monitor changes in post-harvest losses from farm gate to market

Activity I.B.7 Supporting aggregation and transportation capacities

Task I.B.7.1 Identify and recruit 29 youth to establish transport service enterprises

Task I.B.7.2 Assess capital and equipment needs required of each youth entrepreneur

Task I.B.7.3 Train 29 youth in business management and entrepreneurship

Task I.B.7.4 Procure and distribute *tuk-tuks* with carry wagon to 29 youth entrepreneurs on cost-sharing basis

Task I.B.7.5 Link youth entrepreneurs to cassava clusters and processors

Task I.B.7.6 Monitor performance and profitability of youth entrepreneurs

3. Mainstreaming Gender, Youth, ICT and Environmental Compliance

According to a value chain assessment conducted by USAID FED in 2012, women are largely responsible for planting, harvesting, processing and marketing cassava. USAID FED's approach within the clusters is to deliberately target women and youth in recruitment, training, production and processing as well as those women and youth entrepreneurs who may be potentially involved in aggregation and logistics. The enterprises supported will be encouraged to employ women and youth.

Cassava agro-industries may cause many environmental issues if not properly mitigated. USAID FED's cassava value chain will consult with its environmental team to identify potential environment issues that may be of concern as well as train the processors on how to mitigate those issues. This due diligence will form part of the MOU agreements and activity development.

The appropriate ICT tools and technologies will be applied during implementation of cassava value chain activities. This will include hand-held GPS units for mapping, PDAs for information gathering as well as radio programs for dissemination of cassava related knowledge information.

4. Geographic Plans

4.1 Cassava Targets by County

County	# of farmers	# of lead farmers	Hectares under improved technologies	Hectares under demo sites	# of commercial nurseries	Hectares under commercial nurseries[1]	# of processors
Bong	2,500	125	625.00	62.5	8	12	5
Nimba	5,360	268	1,340.00	134	16	24	8
Lofa	1,500	75	375.00	37.5	4	6	5

Grand Bassa	3,600	180	900.00	90	12	18	11
Montserrado	0	0	0.00	0	0	0	4
Total	12,960	648	3,240.00	324	40	60	33

5. Risk Analysis and Mitigation Plan

Deliverable	Target Completion	Responsible Staff	Risk	Mitigation Strategy
Create access to improved varieties	December 2014	Input Supply Specialist	Medium to high: Due to the Ebola crisis, CARI and IITA may not be able to inspect and release varieties from the screening sites	Technical staff will be retained to provide day-to-day management of the screening sites in Lofa in adherence to required protocols and reports shared with CARI
Create access to improved varieties for commercial multiplication	September 2015	Input Supply Specialist, Cassava Value Chain Manager	Low to medium: The 40 commercial nurseries have already been established Aspects of pests and diseases have to be managed	The commercial nurseries are expected to start selling by December 2014. The program will promote staggered cultivation of cassava to ensure year-round production
Provide adequate information and training on improved technologies and varieties	September 2015	Cassava Value Chain Manager, Extension Unit	Low to medium: It may be difficult to mobilize farmers for production in areas highly affected by Ebola, especially in Lofa county during 2014, and this will also affect mapping requirements during that period	Prioritize mobilization in Bong, Nimba and Grand Bassa counties
Improve awareness of market requirements and establish market platforms where buyers and sellers can interact	September 2015	Cassava Value Chain Enterprise Officer	Medium: Due to the Ebola crisis, farmers may not be able to easily sell their FY13 crop to buyers, especially in	As imported rice becomes difficult to access, households may start eating more cassava and thus spurring local

			Lofa County during 2014 Monrovia-based small processors may not have access to the counties during this period	sales across the counties Market linkage activities will be prioritized in Bong, Nimba and Grand Bassa
Enhance the ability of processors to access financial services and expand their markets	September 2015	Cassava Value Chain Manager, Component Two staff	Medium to high: Processing enterprises may not have adequate cash flows or may refuse to invest under cost-share arrangements. This may be particularly true for rural enterprise	Link individual processors to financial services through Component Two Evaluate cost-share percentages if the need arises

6. Partnerships

USAID FED will strengthen partnerships with the following government and non-government organizations to improve the overall performance of the cassava value chain in Liberia.

- Ministry of Agriculture: To partner on the management of the improved cassava varieties
- CARI: To partner on the management and screening of improved cassava varieties
- IITA: To partner on the importation and distribution of improved cassava varieties
- National Cassava Office: To partner on knowledge management and policy advocacy
- WFP: To partner on ISFM best practices for cassava production
- WFP: To partner on strengthening markets for locally processed cassava flour

Task 1C: Improving Productivity and Profitability of the Horticulture (vegetables) Value Chain

A. The Challenge

The horticulture, or vegetable, value chain is supported under the Feed the Future framework, aimed at helping Liberian farmers improve their income while increasing access to vitamin-rich foods thereby promoting diet diversification. The range of vegetables currently produced in Liberia includes pepper, bitter ball, eggplant, tomatoes, cucumbers, and okra. These have significant income potential for farmers in the target counties, offer substantial positive nutrition and dietary impacts in current consumption patterns, and have the highest potential to engage women and youth farmers. The demand for high-value and exotic vegetables such as tomatoes, lettuce, cucumber, bell pepper and onions has increased with the influx of large-scale businesses with concessions, diaspora returnees and a growing expatriate

community. Despite climatic conditions of Liberia favoring the production of these vegetables, domestic supplies are inconsistent and of poor quality compared to imported vegetables.

Liberian farmers produce a low volume of vegetables for a variety of reasons. Households often plant poor varieties of vegetables that are not only low-yielding but also poor in pest and disease resistance. Most farmers plant vegetable seeds from previous seasons because they lack access to improved seed varieties due to unavailability, unaffordability or limited knowledge of which improved varieties to use. Poor pest and disease management practices result in poor yields, as vegetables remain susceptible to attacks. In some cases, farmers are unable to identify pests and diseases attacking their crops due to limited knowledge of horticulture. They also use the same broad spectrum pesticides all year round because pesticides often have to be imported and are expensive.

Poor horticultural practices contribute to low volume and poor quality of vegetables. In the dry season for example, most farmers cannot afford irrigation technologies that would ensure adequate volumes of healthy vegetables. Most of the farmers living in rural areas have no access to suppliers or dealers to source inputs for production. In addition, the existing agro-input suppliers do not sell inputs in pack sizes that are affordable to farmers. In most cases, prices of inputs are higher because they are imported.

Post-harvest losses are high due to poor harvesting and post-harvest handling, transportation and storage issues. Harvesting and post-harvest losses have been estimated at approximately 50 percent of what is produced. Farmers rarely time their harvesting during the cooler times of the day, which can reduce losses. In addition, farmers also harvest vegetables either too early or too late in relation to the maturity required by the market, further contributing to post-harvest losses. Farmers and traders both lack knowledge in proper post-harvest handling of vegetables.

Storage facilities remain limited, and the cost of establishing improved facilities for perishable products is prohibitive. Cooling facilities or supply systems are non-existent or not accessible to the vegetable farmer. Overall, buying practices of end-market channels do not support price discrimination or give premium to quality. As a result, there's no motivation to invest in improved post-harvest handling, transport and storage.

The production of high-value vegetables is often seasonal. Most Liberian farmers do not plant vegetables during the rainy season for several reasons. They are either unaware of existing technologies that can make it possible, they lack the horticultural training to do so, they lack the funds to procure these technologies or they prefer to plant other crops during the wet season. Linkages between vegetable producers, traders and buyers are weak. Most of the time, farmers do not produce high-value vegetables for the market. This is due to lack of information about market requirements.

The ease of importing vegetables from neighboring countries and the lack of efficient supply chains, inputs, knowledge and capital make the vegetable sector unattractive to private sector investors. However, since vegetable production is more geared to intensification per unit area rather than expansion of production area, it is possible to increase vegetable production if farmers can negotiate contracts with traders and institutional buyers.

B. USAID FED LOP Objectives/Targets

I. LOP Objectives/Targets

In FY15 and FY16, the principal objective of the horticulture value chain is to demonstrate profitable production of high-value, local vegetables to at least 15,000 farmers in USAID FED-supported counties. During the period, USAID FED will demonstrate how to improve the yields and quality of vegetables through good horticultural practices; how to improve post-harvest handling and reduce post-harvest losses; how to use new technology; and how to gain access to markets and buyers. USAID FED will address the need to facilitate access to affordable inputs in a sustainable model of embedded services that promotes agro-dealers as entrepreneurs. USAID FED will provide the economic analysis of the benefit of investing in price discrimination based on quality and its impact on overall sales and incomes for all segments in the value chain. In FY15, USAID will support farmers in establishing horticulture production on at least 125 hectares across the four counties. Marketing platforms will be supported at county levels to ensure local vegetables are traded and high-value vegetables sold to institutional buyers.

2. Milestones in FY14

2.1 Production and sales of high-value vegetables at farm gate

In FY14, a total of 379 farmers representing 21 vegetable clusters produced a total of 74 MT of high-value vegetables on 116.23 hectares during one dry and one wet-production season. The high-value vegetables — including pepper, bitter ball, eggplant, cucumber, okra, lettuce, bell pepper and onions — were sold for a total value of US\$65,000. All farmers received training on good horticulture practices, integrated pest management and post-harvest handling.

2.2 Improving horticulture production practices

In FY14, USAID FED hired a STTA peri-urban agriculture specialist who conducted an assessment of varietal applications, production practices, pest and disease prevalence as well as post-harvest handling methods currently being used in the vegetable value chain²⁰. The findings and recommendations of these assessments enabled USAID FED to identify focus areas on crop yield improvement, pest and disease identification, narrow spectrum pesticide applications, as well as low-cost cold storage investment opportunities. USAID FED developed extension materials that provide technical information on how to implement these recommendations²¹. These low-cost cold storage facilities will be constructed and implemented in FY15.

2.3 Linking vegetable clusters to markets

²⁰ “Analysis of post-harvest activities and improvement cooling systems in the vegetable value chain”; Emmanuel Owusu STTA Report; March 2014²⁰

²¹ These included GAP and IPM for aubergine, African eggplant, chili pepper, cucumber, watermelon, lettuce, okra and cabbage; Identification of common pests and diseases for aubergine, African eggplant, chilies, watermelon and cucumber; General IPM for vegetables and GAP for protected cultivation. In addition, manuals for safe and effective use of plant protection products, post-harvest handling of vegetables for food safety was also produced.

USAID FED linked 20 vegetable clusters, through the lead farmers, to the Monrovia Vegetable Traders Association (MVTA) and facilitated purchase agreements. The association also received training on record-keeping, basic business practices, and was provided with plastic crates to promote proper post-harvest handling of vegetables. In FY14, the association traded a total of 42 MT of vegetables valued at US\$81,000. These sales included produce sourced from other farmers outside of USAID FED support. Two purchase agreements were also signed between ROSNA, a catering firm, and two vegetable clusters in Nimba and Grand Bassa counties.

2.4 Promoting high-value vegetables for export

In FY14, USAID FED supported Grain Coast Inc. to explore the modalities of piloting production of high-quality okra, eggplant, Chinese cucumber (luffa) and chilies (Mi2) for export to VS. Compagnie (VS. CO), a French company that imports African vegetables for the high-end Parisian market. USAID FED further facilitated linkages between Grain Coast and Sidley Austin (SA), a global law firm, to support GCI with drafting a viable contract with VS. CO. In addition to its wide array of legal portfolios, SA provides pro bono legal services to organizations that otherwise would be unable to afford legal representation.

Through this legal assistance, GCI entered into an initial agreement with VS. CO in June 2014. Under this agreement, GCI will supply VS. CO with 500 kg of high-quality Clemson spineless okra, 25 kg of eggplant (Ravaya), 25 kg of Chinese cucumber (Luffa) and 25 kg chilies (Mi2) on a weekly basis. Exportation is expected to commence in Q2 of FY2015.

3. Major Challenges in Programmatic Implementation

The horticulture value chain experienced delays in implementation in FY14 activities due to the late delivery and approval of the FY14 work plan. As a result, the implementation of activities for dry-season vegetable production — December to January — could not be carried out. The delay had an impact on production and sales during Q1 of FY14.

The FY14 work plan focused on the production of high-value vegetables for the institutional market. However, many beneficiaries requested support to produce local vegetables, which are not only cheaper to produce, but also high in demand at markets and preferred for consumption by most Liberians.

Assessments of pest and disease-management practices showed that farmer fields have a high prevalence of pests and diseases that many farmers could not identify due to lack of technical knowledge regarding their identification. USAID FED extension officers also need more training to be able to identify these pests and diseases. The program hired Emmanuel Owusu, a peri-urban agriculture specialist to provide the training, but he had to leave prematurely due to the Ebola outbreak. Pest control on farmer fields is limited to broad spectrum pesticides, which are not effective in controlling certain pests. Insufficient knowledge of pests and diseases and their control, as well as the lack of availability and affordability of appropriate pesticides, are the major reasons for the inability to control pests and diseases. The FY14 assessment shows that some farmers lost entire crops due to lack of access to affordable and reliable chemical applications in the local market. Farmers were trained on good agricultural practices (GAP)

and integrated pest management (IPM), but the training came in the middle of FY14, which was unable to help save the dry season production.

Due to vendor delays in importing and installing greenhouses, USAID FED could not demonstrate protected cultivation during the wet season, July to September, as planned. Only one greenhouse was installed at the Mawah cluster in Montserrado County. The installation of an additional 20 greenhouses was met with heavy rains and restrictions related to the Ebola crisis.

The vegetable voucher program implemented in collaboration with Wienco and its network of agro-dealers saw the redemption of 285 vouchers, which was lower than what was anticipated for the exercise. Farmers said the voucher at a subsidized price of US\$80 was still too expensive, compared to cheaper inputs of similar quality that could be sourced from Guinea or Sierra Leone. In some cases, because farmers were still servicing loans used to buy motorized pumps, they were unable to borrow further to redeem vouchers.

Other farmers had leftover seeds and pesticides from the previous season, which they used during the voucher redemption period. During a follow-up assessment of performance of the voucher program, farmers also mentioned that they considered the voucher package too large and limits their choice on what type of items they could redeem. Redemption was highest under one particular agro-dealer, who was successful in reaching farmers through aggressive marketing and delivery services.

In order to reduce post-harvest losses, USAID FED provided vegetable clusters and traders with plastic crates and training that focuses on post-harvest handling during the transportation of vegetables from the farm to the market. However, the transporters acting as middlemen continue to transport assorted vegetables in sacks in order to maximize space and volume during transportation. The transporters have little knowledge of post-harvest handling of vegetables or of the use of plastic crates to reduce damage to vegetable produce. Further, fare is paid on a per bag basis. Hence, the more bags the more income is earned by transporters.

In FY14, USAID FED identified two potential private sector partners, ROSNA and Grain Coast Inc., to pilot cold storage facility establishment under a cost-sharing agreement. USAID FED research showed that the costs of refrigerated storage containers were quite expensive. A fully operational refrigerated facility would cost an average of US\$25,000 per unit because this had to be imported, exclusive of maintenance costs related to servicing and electricity. ROSNA and Grain Coast Inc. declined to cost-share due to the high capital required to establish such facilities. In addition, due to the delay in activities, it was not possible to demonstrate low-cost storage using alternative material such as charcoal coolers. This will be done in FY15.

USAID FED and Grain Coast Inc. teamed up in establishing an export supply chain supported by production of high-value export quality vegetables through a cost-share arrangement. Grain Coast Inc. made a commitment to invest US \$25,000 to establish an out-grower model that would ensure adequate volumes of vegetables for export where possible. However, Grain Coast Inc. was only able to raise US\$4,500 through online fund-raising toward this cause, ultimately delaying the MoU with USAID FED.

4. Lessons Learned in FY14

USAID FED was able to demonstrate appropriate horticulture production practices for high-value vegetables to 379 farmers in 21 vegetable clusters. The program used demonstration farms to provide training, engage farmers and introduce them to new and improved varieties of vegetables as well as the use of new technologies, such as solar dryers.

A majority of farmers still prefer to produce local vegetables outside of the demonstration plots, because the farmers perceive that these crops have a higher demand in the local markets. A combination of local and high-value vegetables help ensure that farmers can respond to market demands of both local and high-value markets. USAID FED will support both high-value vegetables for institutional buyers as well as local vegetables for the local markets.

It is necessary to commence early procurement of required inputs with vendors to ensure that production is implemented in a timely manner. This is particularly important during the June to September period, when demonstration of protected cultivation is to be implemented. More emphasis should be placed on training farmers on effective pest and disease management in order to reduce production losses and achieve better yields.

In FY14, a 50-percent subsidy did not create adequate incentive for farmers to purchase agricultural inputs via the voucher program. The lessons learned under the FY14 vegetable voucher program indicate that a different approach is required toward facilitating affordable access to inputs such as seed, fertilizer and pesticides. The appropriate seed and pesticide applications were identified in FY14 based on the assessment of pests and diseases prevalence in farmer fields. Application trials commenced in the month of August 2014.

Farmers should be assisted with cropping calendar preparation and planned production based on market requirements. Through Component Two, USAID FED should assess farm clusters' financing requirements early on and link existing and new farmers to financing opportunities that will allow them to procure inputs.

In order to facilitate access to inputs in the future, the program should consider engaging entrepreneurs at the county level. Agro-dealers can invest through a start-up cost-sharing mechanism and strengthen capacity through business training, better marketing and extension services that ensure farmers understand the products, their applications and receive after-sales follow up.

These agro-dealers could be linked to the major agro-input supplier companies as franchises or agents. This approach has the ability to ensure that farmers have immediate and local access to inputs and may be able to receive embedded services. One of the agro-dealers under Wienco had the majority of redemption within her zone of influence due to her farm gate marketing strategies and follow-up with farmers.

In FY14, facilitating purchase agreements with vegetable traders in Monrovia and with catering firm ROSNA provided vegetable farmers with an extra incentive to produce high-value, local vegetables for a guaranteed market. These marketing platforms should be expanded to reach a higher number of vegetable farmers across the counties. For example, trader associations in the major cities within USAID FED-supported counties could be identified and directly linked with new vegetable clusters to ensure market access. These trader associations could be supported to establish consistent supply chains that deliver vegetables to local markets. USAID FED should also identify new entrepreneurs, especially the youth, within the clusters to serve as aggregators for institutional buyers such as ROSNA and Grain Coast.

USAID FED should support Grain Coast Inc. to establish an outgrower scheme to cultivate okra, eggplant, Chinese cucumber and chilies to export to already existing customers. USAID FED can assist Grain Coast to plan FY15 production with the money raised and expand the supply chain over time as exports grow. Grain Coast can also supply the domestic market with high-value vegetables, particularly super markets and institutional buyers through its outgrower strategy.

C. Approach to Achieve LOP Targets/Objectives and FY15 Objectives

I. Strategy for FY15 and FY16

In FY15 and FY16, USAID FED aims to support 7000 new vegetable farmers to participate in the production of local vegetables (for the local markets) and exotic vegetables (for high-value markets) through the application of improved horticulture practices and technologies demonstrated in FY14. These farmers will be linked to trader associations in the counties and in Monrovia, as well as to the private sector, to ensure that increased production is absorbed by the market demand for local consumption and possible export. USAID FED will employ local NGOs to provide technical support to the established vegetable clusters. The program will identify and support entrepreneurs in providing services as aggregators for traders and agro-dealers. This approach will ensure that technology transfer and the business relationships are sustained beyond the life of project.

2. FY15 Anticipated Achievements

- 3,750 vegetable farmers in 188 clusters identified and trained, and participating in the production of local and high-value vegetables on a minimum of 125 hectares of their own land in Montserrado, Margibi, Nimba, Bong, Lofa and Grand Bassa counties²². Approximately 10 percent of these farmers will specialize in high-value vegetable production. This will bring to 738 the total number of farmers producing high-value vegetables, including the FY14 beneficiaries.
- 3,390 vegetable farmers producing and supplying local vegetable varieties to six identified trader associations in Montserrado, Margibi, Nimba, Bong, Lofa and Grand Bassa counties.

²² On the assumption that each identified farmer will produce either local or high-value vegetables on at least 0.10 hectares of their own land.

- 188 lead farmers from these clusters identified and aggregating local and high-value vegetables for trader associations and the private sector companies.
- 18 new demonstration sites established on a cumulative total of five hectares on lead farmers' lands to demonstrate new high-value varieties and technologies to target beneficiaries²³.
- ROSNA, Grain Coast Inc. and other private sector investors are supported in establishing contract farming with at least 700 farmers as outgrowers for high-value vegetable production.
- Five trader associations and two private sector firms operating low-cost storage supply chain facilities with reduction of post-harvest losses from 50 percent to 20 percent
- Wet-season protected cultivation sites are successfully demonstrated during the rainy season and are under production on 21 FY14 sites and 20 new FY15 sites.
- At least 12 agro-dealers co-invest and aggressively marketing and supplying inputs to vegetable clusters in the six counties and in partnership with agro-input supplier companies like Wienco or GroGreen.
- One private sector firm (Grain Coast Inc.) invests and commences export of high-value vegetables to European markets.
- One private sector company supported to establish vegetable certified seed production and distribution pilot plan.

3. FY15 Indicators and targets

Deliverables	FY15		
	Total	Women	Youth
Number of rural households benefitting directly from USG interventions	3,750	1,875	1,688
Number of farmers and others who have applied new technologies and management practices as a result of USG assistance	3,750	1,875	1,688
Number of hectares under new technologies or management practices as a result of USG assistance	125	63	56
Hectares under new or improved/rehabilitated irrigation or drainage services as a result of USG assistance	125	63	56
Number of private enterprises, producers	209 ²⁴	105	94

²³ On the assumption that each of the lead farmers will commit 0.10 hectares of land toward demonstration facilities.

²⁴ Represents 188 vegetable clusters, 12 rural based agro-dealers, three private firms, six trader associations.

organizations, women's groups, trade and business associations and community-based organizations (CBOs) receiving USG assistance			
Number of private enterprises, producer organizations, women's groups, trade and business associations and community-based organizations (CBOs) that applied new technology or management practices as a result of USG assistance	209	105	94
Total increase in installed storage capacity (M ³)	270 ²⁵	N/A	N/A
Number of farmers and others having access to improved seeds	3,750	1,875	1,688
Number of individuals receiving nutrition messages within agricultural programs as a result of USG assistance	3,750	1,875	1,688
Number of HHs with improved diet diversity as a result of USG assistance	2,250 ²⁶	1,125	1,013
Percentage reduction in Post-Harvest Losses (for rice, cassava and vegetables)	5	5	5
Value of incremental sales (collected at the farm level) attributed to Feed the Future (FtF)	US\$400,000	US\$200,000	US\$180,000
Value of new private sector investment in the agri sector or food chain leveraged by FtF implementation	US\$235,000 ²⁷	N/A	N/A
Number of jobs attributed to FtF implementation	240 ²⁸	120	108

²⁵ Includes refrigerated cold storage facilities established with ROSNA, storage facilities established by Grain Coast Inc., charcoal coolers and collection centers established by trader associations.

²⁶ Assuming 60 percent of total beneficiaries diversify their diets as a result of behavior change.

²⁷ Three private sector companies invest at least US\$25,000 each; 12 Agro-dealers invest at least US\$5,000 each; Wenco invests a minimum of US\$100,000 on a GDA to develop agro-dealers.

²⁸ Assuming that 12 agro-dealers employ two people each, private sector firms employ a minimum of 12 people, six trader associations create jobs at 30 people each.

Number of public-private partnerships formed as a result of FtF assistance	209	105	94
Number of MSMEs, including farmers, receiving business development services from USG-assisted sources	3,771 ²⁹	1,886	1,697
Total amount of financing (cash and in-kind) accessed by farmers and agribusinesses through formal, informal, and embedded services.	US\$67,308	US\$33,654	US\$30,289
Number of MSMEs, including farmers, receiving USG assistance to access loans	75	38	34
Number of firms (excluding farms) or civil society organizations engaged in agricultural and food security-related manufacturing and services now operating more profitably (at or above cost) because of USG assistance	15 ³⁰	8	7
Number of individuals who have received USG supported short-term agricultural sector productivity or food security training	3,771	1,886	1,697

D. FY15 Work Plan

I. Results Framework for Task 1C

Constraint	Proposed Solutions	Key Activities	Outcomes FY15	Women & Youth involvement
Farmers have low yields due to low or no access to higher-yielding improved seed varieties that are disease-	Facilitate access to affordable agro-inputs by establishing a commercial networks of agro-dealers	Identify potential agro-dealers at county level to co-invest in input supply dealerships and embedded services Train agro-dealers on improved seed varieties	3,750 farmers have access to improved seed varieties through local agro-dealers 12 agro-dealers are operating profitably	Recruitment of farmers will ensure 50 percent of beneficiaries are women and 45 percent are youth Women and youth will be encouraged to

²⁹ Includes 3,750 farmers, 12 agro-dealers, three private sector firms, and six trader associations.

³⁰ 12 agro-dealers and three private sector firms.

resistant		<p>in collaboration with agro-input supplier companies</p> <p>Identify the financing needs of continuing and new farmers and link them to financial service providers and agro-dealers (Component Two)</p> <p>Support one private sector company on cost-sharing basis to pilot improved seed production and distribution</p>	<p>and providing embedded services to vegetable clusters</p> <p>One seed company invested in improved vegetable seed production pilot</p>	<p>invest as agro-dealers</p> <p>Women and youth will be prioritized for access to financing</p>
There is high prevalence of pests and diseases leading to low volumes and poor quality of vegetables	Facilitate access to technical knowledge on GAP and IPM	<p>Establish 18 demonstration plots with lead farmers</p> <p>Provide demonstration plots with improved seed varieties and appropriate pesticides and chemicals to demonstrate pest and disease-management practices</p> <p>Train 186 lead farmers on GAP and IPM</p> <p>Disseminate appropriate extension material to clusters and develop informative radio programs (Extension)</p>	<p>3,750 farmers have knowledge of GAP and IPM practices</p> <p>186 lead farmers are providing continuous training to farmers through demonstration plots</p>	Women and youth will be targeted to participate as lead farmers
	Facilitate access to appropriate pesticides and chemicals for IPM	<p>Train identified agro-dealers on pesticide and chemical products in collaboration with agro-input supply companies</p> <p>Identify financing needs of continuing and new farmers and link them to financial service providers and agro-dealers (Component Two)</p>	<p>Identified agro-dealers stocking appropriate pesticides and chemicals</p> <p>3,750 farmers have access to appropriate pesticides and chemicals</p>	Women and youth will be prioritized for access to financing
Post-harvest losses are high	Facilitate knowledge on	Train 188 lead farmers on production planning	188 clusters and six trader associations	Training will target women and youth

leading to lower volumes and poor-quality vegetables	post-harvest handling of perishable vegetables	<p>and appropriate harvesting of vegetables</p> <p>Train lead farmers, transporters and trader associations on handling, packaging, storage and transportation of vegetables</p> <p>Identify capital requirements for trader associations and private sector firms toward establishing cold storage supply chains</p> <p>Provide lead farmers and transporters with packing crates for transportation of vegetables on cost-share basis</p> <p>Assist six trader associations in establishing charcoal cooling facilities on cost-share basis</p> <p>Support at least two private sector firms in establishing cold storage facilities as well as refrigerated vans on cost-share basis</p>	<p>are applying good post-harvest handling practices</p> <p>Low-cost cooling facilities demonstrate reduction in post-harvest losses by at least 5 percent</p>	beneficiaries
High-value vegetable production is seasonal	Support farmers to produce vegetables during the dry season	738 (360 new and 378 continuing) high-value vegetable farmers supported to acquire drip irrigation kits and motorized pumps on cost-share basis	738 high-value vegetable farmers produce vegetables during the dry season	Clusters with women and youth groups will be prioritized
	Support farmers to produce vegetables during the wet season through protected cultivation	<p>Complete establishment of 20 greenhouses on FY14 sites</p> <p>Identify 20 new sites for demonstration of protected cultivation</p> <p>Procure and distribute greenhouse facilities to</p>	40 clusters demonstrate protected cultivation and produce high-value vegetables during the FY15 rainy season	Clusters with women and youth groups will be prioritized

		the 20 new clusters Train farmers on greenhouse management techniques		
	Support farmers to produce vegetables for the high-value markets	Monitor use of solar drying techniques and adoption by FY14 groups Support ROSNA, Grain Coast Inc. and a third private sector firm in establishing high-value vegetable outgrower scheme on cost-share basis Mobilize 738 farmers for contract farming toward production of high-value vegetables for institutional and retail markets	Effectiveness of solar drying technologies and adoption is determined 738 farmers produce high-value vegetables for three private sector firms Grain Coast Inc. exports 0.5 MT of vegetables to Europe on a weekly basis starting March 2015	Women and youth farmers will be prioritized in beneficiary selection of outgrowers

2. Work Breakdown Structure for Task IC

Activity I.C.1 Improving access to affordable seeds of improved vegetable varieties

- Task I.C.1.1 Identify 12 potential agro-dealers to invest in input supply and embedded services
- Task I.C.1.2 Train 12 agro-dealers in collaboration with existing agro-input supplier companies
- Task I.C.1.3 Identify financing needs of continuing and new farmers
- Task I.C.1.4 Link farmers to financial service providers and identified agro-dealers (Component Two)
- Task I.C.1.5 Distribute improved seed varieties to agro-dealers on cost-share basis to stimulate demand
- Task I.C.1.6 Identify company to invest in vegetable seed production and distribution pilot
- Task I.C.1.7 Identify the financing needs of the company and establish seed production pilot
- Task I.C.1.8 Link vegetable clusters and agro-dealers with private sector seed producer and distributor

Activity I.C.2 Promoting Integrated Pest Management (IPM) practices

- Task I.C.2.1 Identify 3,750 farmers and establish 18 demonstration plots in six counties
- Task I.C.2.2 Provide demonstrations with improved seed and pesticides to demonstrate IPM practices
- Task I.C.2.3 Train 188 lead farmers on GAP and IPM
- Task I.C.2.4 Disseminate extension material to clusters and develop informative radio programs
- Task I.C.2.5 Train agro-dealers on IPM products in collaboration with agro-input suppliers
- Task I.C.2.6 Identify financing needs of continuing and new farmers (Component Two)
- Task I.C.2.7 Link farmers to financial service providers and identified agro-dealers (Component Two)

Activity I.C.3 Reducing harvesting and post-harvest losses

- Task I.C.3.1 Train 188 lead farmers on production planning and appropriate harvesting of vegetables

- Task I.C.3.2 Identify five new trader associations in Bong, Nimba, Lofa, Grand Bassa and Margibi
- Task I.C.3.3 Train lead farmers and trader associations on packaging, storage and transportation methods
- Task I.C.3.4 Identify financing requirements for trader associations and private sector firms toward establishing cold storage facilities
- Task I.C.3.5 Provide lead farmers and traders with packing crates for transportation of vegetables on cost-share basis
- Task I.C. 1.6 Provide six trader associations with low cost charcoal cooler technologies on cost-share basis
- Task I.C.1.7 Provide two private sector firms with cold storage facilities through cost-sharing

Activity I.C.4 Demonstrate dry season production with drip irrigation kits and motorized pumps

- Task I.C.4.1: Procure and distribute 18 drip irrigation kits to high-value vegetable producers on cost-share basis
- Task I.C.4.2: Train farmers in the installation and management of drip kits during dry season production
- Task I.C.4.3: Cost-share motorized pumps for 18 demo sites producing high-value vegetables
- Task I.C.4.4: Procure and distribute vegetable seeds, chemicals and tools as start-up kits to 18 demo sites farmers
- Task I.C.4.5: Train 3,750 farmers in improved production of local and high-value vegetables

Activity I.C.5 Improving wet season vegetable production through protected cultivation

- Task I.C.5.1 Complete the installation of 20 greenhouse facilities on FY14 sites
- Task I.C.5.2 Identify 20 new sites for demonstration of protected cultivation
- Task I.C.5.3 Procure and distribute greenhouse facilities to 20 new clusters
- Task I.C.5.4 Train farmers in selected clusters on greenhouse management and protected cultivation
- Task I.C.5.5 Link clusters to private sector firms as outgrowers of high-value vegetables for wet season cultivation

Activity I.C.6 Enhancing linkages with local and high-value markets

- Task I.C.6.1 Monitor use of solar drying techniques and adoption by FY14 groups
- Task I.C.6.2 Establish financing requirements for private sector to establish high-value vegetable outgrower schemes
- Task I.C.6.3 Support private sector in establishing outgrower infrastructure through cost-sharing
- Task I.C.6.4 Mobilize 738 farmers as outgrowers for contract farming with the private sector

3. Mainstreaming Gender, Youth, ICT and Environmental Compliance

Interventions conducted by USAID FED as well as any ICT and environmental compliance activities will prioritize the inclusion of gender (women) and youth in high-value and local vegetable production whether as providers or recipients. Strategies developed will ensure that value chain interventions utilize appropriate ICT technologies and take into consideration environmental compliance.

4. Geographical Plans

It is anticipated that the vegetable value chain interventions will directly reach at least 3,750 beneficiaries through the networks and platforms created during FY15.

4.1 County targets for high-value vegetable producers

No	County	Number of Farmers			Number of clusters	Hectares
		Male	Female	Total		
1	Montserrado	72	48	120	6	5
2	Margibi	60	40	100	5	4
3	Bong	24	16	40	2	2
4	Nimba	36	24	60	3	3
5	Brand Bassa	24	16	40	2	2
6	Lofa	0	0	0	0	0
	Total	216	144	360	18	16

4.2 County targets for local vegetable producers

No	County	Number of Farmers			Number of Clusters	Hectares
		Male	Female	Total		
1	Montserrado	508	339	847	42	26
2	Margibi	406	271	677	34	21
3	Bong	305	204	509	25	17
4	Nimba	305	204	509	25	17
5	Brand Bassa	203	136	339	17	11
6	Lofa	305	204	509	25	17
	Total	2032	1358	3390	168	109

5. Risk Analysis and Mitigation Plan

Deliverable	Target Completion	Responsible Staff	Risk	Mitigation Strategy
Facilitate access to affordable improved seed by establishing a commercial network of agro-dealers	September 2015	Peri-Urban Agriculture (PUA) Specialist (with support from Input Supply Specialist, PUA Specialist STTA and Component Two)	<p>Medium to high: Due to the Ebola crisis, the identification and establishment of agro-dealers may be delayed in some counties</p> <p>Identified agro-dealers and private sector company to pilot seed</p>	<p>Agro-dealer selection and support will start with counties least affected by the Ebola crisis</p> <p>Agro-dealers and seed production and distribution company will be supported through cost-sharing and</p>

			production and distribution may not have access to capital to invest	linked to financial service providers for loans
Facilitate access to technical knowledge on GAP and IPM	September 2015	PUA Specialist, Extension staff	<p>Medium to high: Due to the Ebola crisis, the identification of beneficiaries, training and setting up of demonstration farms may be delayed in some counties</p> <p>Clusters may not have adequate funds to buy improved seeds and pesticides from agro-dealers</p>	<p>Beneficiary selection and support will start with counties least affected by the Ebola crisis</p> <p>Agro-dealers will be trained on rural marketing and embedded services</p> <p>Clusters will be linked to financial service providers for loans</p>
Facilitate access to appropriate pesticides and chemicals for IPM	September 2015	PUA Specialist and Component Two	<p>Medium to high: Due to the Ebola crisis, the identification and establishment of agro-dealers may be delayed in some counties</p> <p>Identified agro-dealers may not have access to capital to invest</p>	<p>Agro-dealer selection and support will start with counties least affected by the Ebola crisis</p> <p>Support agro-dealers through cost-sharing and link to financial service providers for loans</p>
Facilitate knowledge on post-harvest handling of perishable vegetables	September 2015	Enterprise Marketing Officer with support from PUA Specialist	<p>Low to medium: Due to the Ebola crisis, there may be delays in establishing and setting up of cold storage facilities during Q1 of FY15</p> <p>Trader associations and the private sector firms may not have adequate resources to invest</p>	<p>Procurement activities will be undertaken in Q1 of FY15</p> <p>Traders and private sector firms will be supported through cost-sharing and linked to financial services</p>
Support farmers in producing vegetables during the wet season through protected cultivation	May 2015	PUA Specialist (with support from PUA Specialist STTA)	Low: Installation of greenhouse technologies will be undertaken during Q2 of FY15	Procurement of greenhouses for new sites will be undertaken during Q1 of FY15
Support farmers to	September 2015	PUA Specialist,	Medium to high:	Beneficiary selection

produce vegetables for high-value markets		Enterprise Marketing Officer	<p>Due to the Ebola crisis, the identification of out-growers may be delayed in some counties</p> <p>Private sector firms may not have adequate funds to set up required infrastructure</p> <p>Exports of vegetables may not be realized until 2015</p>	<p>and support will start with counties least affected by the Ebola crisis</p> <p>Privates sector firms will be supported through cost-sharing and linked to financial service providers for loans</p>
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6. Partnerships

USAID FED will establish and/or strengthen partnership with the following agencies, NGOs and donor projects.

Ministry of Agriculture: To partner on extension services and improved seed varieties

Weltungerhilfe: To partner on peri-urban horticulture support.

WAFP : To partner on fertilization recommendations

MoCI: To provide support for exporting vegetables

Grain Coast: To partner in exporting high-value vegetables to European buyers

ROSNA: To partner in creating cold storage activities

GROW: To partner on overall vegetable value chain development

Task 1D: Increased Productivity and Profitability of Goat Value Chain

A. The Challenge

Goats represent a core household asset for many rural households in Liberia. They provide income to families when they are sold on a need-to basis and not through regular commercial transactions in livestock markets. Many households consider goats as ‘walking bank accounts’, i.e. families sell them when funds are needed to pay for school fees, hospital costs, weddings and emergencies.

Even though goats could offer a profitable and secure source of income for farmers, they are not raised as a business enterprise in Liberia. In the rural villages, goats run free with little, if any, conscious management practices applied.

The internal demand for goat meat is met primarily through importation of goats from neighboring countries such as Guinea, Sierra Leone, Ivory Coast and Mali. This is due to insufficient and irregular

supply of goats ready for slaughtering, low productivity of goat herds by Liberian farmers and lack of marketing infrastructure that link traders and goat farmers within the counties.

Goat meat consumption is high during special occasions such as graduation and wedding ceremonies. Restaurants often feature goat soup as one of the most expensive items on the menu. Goat sales are determined by eyeballing (sizing up an object, in this case, a goat, just by looking at it) and not by the actual weight of the goat. In some communities, households prefer consuming bushmeat to goat meat, or do not consume goat meat at all due to cultural beliefs. The selling price of goats in Liberia does not differ significantly from the prices of imported goats, yet traders are unable to find an adequate supply in-country and thus opt for importation.

Veterinary services are limited to donor projects such as USAID FED. The lack of adequate supplies of forage, drugs and community animal health workers (CAHW) as well as poor herd-management practices exposes the herds to diseases, pests and the elements. This negatively impacts kidding rates, immortality rates and the general health of Liberia's livestock.

B. USAID FED LOP Objectives and Status

I. LOP Objectives/Targets

USAID FED will implement improved goat production technologies and marketing strategies to directly benefit 12,400 goat producers by September 2016. This number comprises the 5,364 beneficiaries supported in FY14; 4,017 beneficiaries who will be supported in FY15; and 3,019 beneficiaries in FY16.

USAID FED will establish a total of 238 production intensification sites (19 in FY13; 84 in FY14; 77 in FY15; and 58 in FY16) and 59 goat marketing hubs (one hub per four sites) through the life of the project. This strategy will allow Liberian goat producers to effectively manage their herds and access the growing domestic market for goat meat.

In FY15, 77 improved goat production intensification sites will be established. These sites will benefit 1,545 direct beneficiaries (20 per group) who will extend improved production technologies to a further 2,310 indirect beneficiaries. In addition, 154 additional CAHWs (two per site) will be trained on providing animal health services. Eight additional agro-pharmacists (two additional per county) will be recruited to enhance access to veterinary supplies. The program will identify the CAHWs supported in FY14 who are able to cover the unsubsidized (20 percent) cost of veterinary supplies under USAID FED's voucher program. In addition, at least one livestock/goat marketing hubs will be established in the four primary counties to promote regular goat trade. These hubs will also support already established goat production intensification sites established in FY14.

2. Milestones in FY14

2.1 Goat production intensification

In FY14, USAID FED established 84 goat production intensification sites, for a total of 103 goat sites consisting of 2,060 farmers (20 per group), with herds totaling approximately 5,200 goats (3,359 bucks, 860 does and 1,200 kids). These sites extended improved production practices to an additional 2,940 indirect beneficiaries. The cattle chairmen from 147 satellite communities surrounding the 103 sites were trained in basic goat husbandry and salt/mineral block fabrication and use. At these sites, 206 goats have been tagged and dewormed to ensure the health of the herds. In FY14, 650 kids were born, providing support to the re-stocking of existing herds.

2.2 Establishment of goat shelters

USAID FED also supported the construction of 231 goat shelters (77 sites with three shelters each) to assist goat farmers in herd management. These include 18 sites in Bong, 30 in Nimba, 20 in Lofa and nine in Grand Bassa. USAID FED contracted 23 sawyers and 28 carpenters who used material contributed by the beneficiary communities to construct the shelters. Each of the sites has three shelters: herd shelter, a maternity shelter and sick bay to segregate expecting does and ill animals from the main herd.

2.3 Goat voucher program

Through the goat voucher program, 206 CAHWs (two per group) were recruited and trained to provide veterinary services to goat farmers at production intensification sites. The CAHWs were then linked to eight recruited and trained agro-pharmacists (two per county), through which they successfully redeemed subsidized vouchers for animal starter kits with veterinary drugs.

2.4 Establishment of goat quarantine facility

USAID FED completed the establishment of a goat quarantine facility at the Central Agriculture Research Institute (CARI) in Bong. This facility, which has the capacity to shelter 500 animals, was inaugurated by the U.S. ambassador in April 2014 and is currently managed by CARI. In July 2014, a total of 209 animals imported by Land O' Lakes into Liberia were quarantined at the facility. The goat value chain team also developed a Quarantine Facility Management Guide for CARI to provide strategic guidance on the management needs of such a facility.

2.5 Imported improved breeds

In July 2014, Land O' Lakes imported 209 goats of unrelated herds from Guinea for restocking and to provide fresh genetic stock to indigenous Liberian goatherds. The imported goats were quarantined at the CARI facility in Bong. Then through the existing partnership, USAID FED selected 30 male goats from the imported stock and distributed the goats to 15 goat production sites in Nimba County.

2.6 Goat marketing platforms

In FY14, the first goat marketing event was held in Ganta, Nimba County, in order to link goat farmers and traders from Monrovia and Nimba counties. The event was attended by 13 lead farmers from goat-producing clusters in Nimba County and six goat traders. At the event, 20 goats were sold for US\$965. Farmers were also trained on how to better select animals for market.

3. Major Challenges in Programmatic Implementation

The Government of Liberia (GoL) and Ministry of Agriculture's (MoA) investments in the goat sector remain minimal. As a result, veterinary services and goat marketing infrastructure face challenges outside of USAID FED assistance. The existing livestock policies are not being implemented, and only recently, did the GoL, through Executive Order No. 64, waive duty on agriculture-related imports. The effect of this waiver is yet to be felt in the goat subsector.

The planned FY14 importation by Land O' Lakes of 500 improved, trypanosome-tolerant goats from The Gambia was not realized due to the logistical challenges of shipping the herds to Liberia by road. Instead, Land O' Lakes imported 209 goats from Guinea, and due to the length of time the goats were held in quarantine at the border and the stress of road travel, the partner reported a mortality rate of 27 percent (44 out of the 163 delivered died). The new quarantine facility at CARI served its function well in that the imported goats were held, observed and treated in order to reduce further mortalities prior to distribution to farmers.

In 2014, the planned PPR (*peste des petits ruminants*) vaccination campaign could not be implemented due to the protracted process of completing the contract with BRAC. As a result, BRAC requested for a deferral of the exercise to commence in October, due to the difficulty of undertaking a nationwide vaccination campaign during the rainy season.

4. Lessons Learned in FY14

More efforts are required toward involving the MoA and the Agriculture Development County Committees (ADCD) to support the goat subsector at national and county levels. There is a need to revisit the livestock policies and identify areas that can be implemented in FY15 and FY16. This will be especially important when facilitating access to veterinary drugs and supplies by the agro-supply companies on duty waivers.

USAID FED should consider quicker options for importing the improved nucleus breeding herd from The Gambia. Through the program's expertise, the selection, feeding requirements, transportation and quarantine of the herd should be managed directly by USAID FED.

USAID FED has learned several lessons from the construction of goat shelters in FY14. First, that it is possible to establish cost-effective shelters through material sourced locally by the beneficiary communities. The team asked farmers to provide wood, a resource they readily have access to, and this in-kind contribution was a driving factor in the success of establishing the shelters. In addition, the timely construction of these shelters proved to be a challenge. Procuring the necessary materials and the actual building of the shelters required a significant amount of the FED county team's time and effort.

Moving forward, the project will explore other options for implementation, potentially involving local NGOs or other groups. With the obvious willingness of farmers to adopt improved technologies of shelter herd management, more sustainable finance options also need to be investigated, such as Village Savings & Loan (VSLA) and micro-finance institutions to address the costs of establishing shelters. Concurrent investigations aimed at cost-reduction in shelter construction should also be investigated and pilot-tested as well.

The goat “pass-on” scheme has evolved from its original form. Initially, the project envisioned that partners would pass on strong goats from their herds to outside groups to continue strengthening the general goat population. However, the farmers showed reluctance to share their animals with others outside of their communities. As a result, the approach has evolved to passing animals to other herds within the same group or community. Thus, the notion of sharing strong animals continues but on a local scale. Group-owned and managed goat herd growth is the prominent motivation for the adoption of technologies seen among group members and surrounding satellite extension farmers.

USAID FED is currently supporting efforts to prevent PPR and envisions that the responsibility for PPR-prevention will eventually be transferred to the Ministry of Agriculture to ensure sustainability. In FY15, USAID FED will approach and request the MoA to purchase the required vaccines while USAID FED will provide the manpower needed to administer the campaign.

In FY14, USAID FED implemented a voucher program to provide CAHWs with veterinary drugs and related supplies needed for their daily activities in veterinary service provision. This activity was considered successful since all 206 CAHWs redeemed vouchers at eight agro-pharmacists. The agro-pharmacists regard the CAHWs as future clients. As a result of the positive results, USAID FED will implement a similar voucher program for new CAHWs in FY15, and will introduce vouchers that subsidize 50 percent of the inputs needed instead of the 100-percent subsidy done in FY14.

Marketing events and strategies for FY15 and FY16 should take into consideration preparation of animals for sale through proper animal nutrition, selection of the appropriate animals and addressing governance issues in the value chain i.e. standardization in marketing, transparency and accountability. Marketing events can also be conducted at the cluster level to reduce transport costs to farmers and injuries to animals as a result of poor transportation methods.

The goat value chain will also seek partnerships with other agencies such as BRAC and USDA/LOL to ensure that platforms are created where more beneficiaries can benefit from mutual interventions. For example, goat farmers supported by BRAC and Samaritans Purse can benefit from market events promoted by USAID FED.

C. Approach to Achieve LOP Target/Objectives and FY15 Objectives

I. Strategy for FY15 and FY16

By the end of FY14, 103 goat sites representing 2,060 direct beneficiary farmers (20 farmers per group) were established. The 103 sites constitute extension platforms situated in districts of the highest concentration of goat producers as per Liberia Institute of Statistics and Geo-Information Service (LISGIS) census data. These platforms have extended technology awareness to approximately 30 satellite farmers surrounding these sites, resulting in approximately 3,090 indirect beneficiary farmers in 2014.

Cattle chairmen of the communities surrounding all 103 sites were trained in basic goat husbandry and salt/mineral block preparation, and these cattle chairmen have also extended the training to their

satellite community farmers. As a result, a total of 5,150 beneficiaries, both direct and indirect, were reached through these sites. Two CAHWs were trained per group, resulting in 206 CAHWs and eight agro-pharmacists to supply veterinarian drugs. The total number of beneficiaries reached in 2014 is approximately 5,364.

In FY15, it is anticipated that 50 percent of the 3,090 indirect beneficiary farmers of FY14 will adopt the new technologies. This translates to 1,545 farmers or 77 new (20 farmers group) direct beneficiary groups that will be supported in FY15. USAID FED will support these 77 new groups in establishing goat shelters through a subsidy that meets 80 percent of the construction costs. This will require farmers to eventually increase their contributions (USAID FED will only provide roofing and slatted floors). The project will also explore cost-effective models that introduce cost-reduction possibilities for shelter construction. USAID FED will also provide support towards improved forage production in order to strengthen goat nutrition and health.

Each of these 77 new sites are expected to extend technology awareness to approximately 30 satellite farmers surrounding these sites, resulting in 2,310 indirect beneficiary farmers in 2015. The project will work toward building linkages between these groups to encourage them to share resources to further growth. Therefore, a total of 3,855 farmer beneficiaries, both direct and indirect, will be supported in FY15. Two CAHWs will be trained per each new site, or a total of 154 additional CAHWs (all women). Eight additional agro-pharmacists will be recruited and trained to supply veterinary drugs to the CAHWs through a voucher program. The goat value chain will thus support a total of 4,017 beneficiaries in FY15.

Goat Marketing Hubs providing marketing support, business-management training, business plans, as well as marketing summits, will be established within the counties. These marketing hubs will benefit both FY14 and FY15 beneficiaries supported by USAID FED, as well as independent goat traders from urban and rural centers. Village Savings & Loan Associations (VSLA) and Micro-Finance Institutions (MFIs) development initiatives will be an integral part of the financing options explored in order to create access to finance for goat farmers, agro-pharmacists and CAHWs.

In FY16, it is assumed that 50 percent of the 2,310 indirect beneficiaries of 2015 will adopt the technologies. This means that an additional 1,155 farmers or 58 new (20 farmers/group) direct beneficiary groups will be supported in establishing goat shelters by providing an 80-percent subsidy of the construction costs. Each of these 58 new sites will in turn extend technology awareness to approximately 30 satellite farmers surrounding these sites, resulting in 1,740 indirect beneficiary farmers in 2016, and a total of 2,895 farmer beneficiaries in FY16.

Two CAHWs will be trained per site, a total of 116 additional CAHWs (all women). Eight additional agro-pharmacists will supply veterinary drugs to the CAHWs through voucher programs. Under the activity, a total of 3,019 beneficiaries will be supported by USAID FED. Marketing support will continue to be provided to all direct beneficiaries during the life of the project.

USAID FED and BRAC's EU-funded Livestock Development Program will enter into a Memorandum of Understanding (MOU). All CAHWs trained by USAID FED will provide veterinary services for BRAC-

implemented Livestock Production Intensification Programs in Bong, Nimba, Lofa and Grand Bassa counties. In addition, the agro-pharmacists recruited and trained by USAD FED will also address poultry and cattle veterinary provisional needs for BRAC beneficiaries.

USAID FED will assist CARI in establishing a nucleus breeding herd at their facility in Bong County. The nucleus breeding herd of approximately 100 imported superior breeding goats will be the basis for future goat distribution to Liberian goat producers. Introduction of new genetic material will serve to significantly upgrade the genetic variability among indigenous goat herds while reducing the incidence of inbreeding and increasing productivity.

Within the context of basic herd-breeding management, rotation of herd breeding bucks with neighboring unrelated herds continues to be the current mechanism of choice to reduce inbreeding. Introduction and availability of nucleus breeding herd with superior performance-proven stock will enhance these on-going efforts of breeding buck rotation among herds. USAID FED expects to see the impact of the established nucleus breeding herd beginning in September 2015.

2. FY15 Anticipated Achievements

- 77 new goat production sites with 1,545 goat farmers supported
- 154 new CAHWS recruited and providing veterinary services to goat farmers
- Eight new agro-pharmacists stocking veterinary drugs within the counties
- Voucher program with CAHWs and agro-pharmacists implemented
- Marketing hubs, at least one in each of the four counties, where trading can be promoted
- PPR vaccination campaign conducted nationwide by BRAC
- Nucleus breeding herd established in CARI

3. FY15 Indicators and Targets

Deliverables	FY15		
	Total	Women (50 percent)	Youth (45 percent)
Number of rural households benefitting directly from USG interventions	4,017	2,009	1,809
Number of farmers and others who have applied new technologies and management practices as a result of USG assistance	4,017	2,009	1,809
Number of private enterprises, producers organizations, women's groups, trade and business associations and community-based organizations (CBOs) receiving USG assistance	239 ³¹	197	38
Number of private enterprises, producer organizations, women's	239	197	38

³¹ Includes 77 goat groups, 154 CAHWs and eight agro-pharmacists

groups, trade and business associations and community-based organizations (CBOs) that applied new technology or management practices as a result of USG assistance			
Number of individuals receiving nutrition messages within agricultural programs as a result of USG assistance	4,017	2,009	1,809
Number of HHs with improved diet diversity as a result of USG assistance	2,410 ³²	1200	1200
Value of incremental sales (collected at the farm level) Value of new private sector investment in the agri sector or food chain leveraged by FtF implementation attributed to FtF	US\$192,000	US\$96,000	US\$86,400
Value of new private sector investment in the agri sector or food chain leveraged by FtF implementation	US\$77,000	US\$38,500	US\$34,650
Number of jobs attributed to FtF implementation	264	132	119
Number of public-private partnerships formed as a result of FtF assistance	239	197	38
Number of Policy Regulations Administrative Procedures in each of the following stages of development as a result of USG assistance in each case: Analyzed, Drafted	0	0	0
Number of MSMEs, including farmers, receiving business development services from USG-assisted sources	4,017	2,090	1,881
Number of firms (excluding farms) or Civil Society Organizations (CSOs) engaged in agricultural and food security-related manufacturing and services now operating more profitably (at or above cost) because of USG assistance	176	88	79
Total amount of financing (cash and in-kind) accessed by farmers and agribusinesses through formal, informal, and embedded services.	US\$14,421	US\$7,211	US\$6,490
Number of MSMEs, including farmers, receiving USG assistance to access loans	432	216	194
Number of individuals who have received USG-supported short-term agricultural sector productivity or food security training	44,179	2,090	1,881

D. FY15 Work Plan

I. Results Framework for Task 1D

Constraint	Proposed Solutions	Key Activities	Outcomes FY15	Women & Youth involvement
Losses in breeding herd due to climate, theft, predators, parasitic infections	Build shelters to protect herds from rain and to control movement of goats	Establish shelters (with zinc roofs) Establish fenced pens	77 additional shelters, slatted floors and enclosures	Youth carpenters will be trained in construction of shelter and slatted

³² Assuming that 60 percent of beneficiaries diversify their diets as a result of behavior change

	<p>at night with dry ground that prevents parasitic infections</p> <p>Provide veterinary services, PPR vaccines and information</p>	<p>for security</p> <p>Establish slatted floor shelters keeping floor dry</p> <p>Train CAHWs and agro-pharmacists in rural areas</p> <p>Train farmers in herd management</p> <p>Conduct PPR vaccination campaign</p>	<p>established</p> <p>154 CAHWs providing veterinary services and drugs to goat farmers</p> <p>Eight additional agro-pharmacists stocking veterinary drugs</p> <p>1,545 farmers practicing good herd management</p> <p>120,000 goats vaccinated against PPR on a national scale</p>	<p>floors</p> <p>CAHWs targeted for recruitment will all be women</p> <p>Youth and women will be targeted for herd management training</p>
<p>46 percent of kids (4 months of age or less) die before weaning due to unhealthy mothers in goat herds, poor genetic variety in breeding herds and nutritional deficiencies</p>	<p>Select healthy mothers for productivity</p> <p>Increase genetic variety/quality in herd</p> <p>Identify and meet nutritional deficiencies</p>	<p>Train farmers on record-keeping of herd mothers and culling</p> <p>Provide performance-proven bucks to herds</p> <p>Establish improved forages, fodder banks, and mineral supplements</p>	<p>1,545 farmers keeping mother-productivity records and practicing culling strategies</p> <p>Functional nucleus breeding herd with 100 animals established at CARI</p> <p>1,545 farmers with improved forage, fodder banks and providing mineral supplements to their herds</p>	<p>Youth and women will be targeted for training</p> <p>Youth technicians will be targeted for recruitment at nucleus breeding herd site at CARI</p>
<p>Domestic market relies on imported goats (Inadequate supply of goats locally, local goat markets poorly structured, farmers lack business acumen and are inadequately linked to buyers)</p>	<p>Increase productivity of local Liberian goats through shorter growing period from weaning to market</p> <p>Train goat farmers on various types of feeds for goats that will improve their health conditions and increase their value in the market</p> <p>Structure local goat markets to supply both quality and quantity animals to</p>	<p>Provide veterinary care, herd management and improved genetics</p> <p>Organize trade events at county level</p> <p>Organize rural goat marketing hubs within production clusters</p> <p>Organize meetings between farmers and trader/buyers</p> <p>Train farmers on</p>	<p>At least four goat trading hubs established in four counties</p> <p>1,545 farmers have enhanced business skills and are linked to traders</p> <p>Goat farmers selling healthier goats for better prices</p>	<p>Women and youth will be encouraged to participate in goat-trading events</p> <p>Women and youth will be deliberately targeted for business training</p>

	buyers Link goat farmers to traders/buyers in-country Train farmers on selection of goats for market, price negotiation and trading principles	forage, how to select animals for the market and on trading practices and methods		
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2. Work Breakdown Structure for Task ID

Activity I.D.1 Promote Goat Shelters

- Task I.D.1.1 Identify Lead farmers in Bong (22), Nimba (26), Lofa (19) and Grand Bassa (eight)
- Task I.D.1.2 Contract and train eight sawyers (two per county) to cut wood for shelter construction
- Task I.D.1.3 Contract and train eight carpenters (two per county) on shelter construction
- Task I.D.1.4 Determine shelter material requirements for 77 shelters
- Task I.D.1.5 Procure and distribute nails, fencing, zinc roofing to goat sites
- Task I.D.1.6 Construct 77 shelters in Bong, Nimba, Lofa, and Grand Bassa through cost-sharing
- Task I.D.1.7 Develop smaller shelters that are either individually owned or in partnership
- Task I.D.1.8 Train farmers on shelter management, improved forage feeders, salt/mineral block fabrication, and breeding

Activity I.D.2 National PPR Campaign

- Task I.D.2.1 Acquire MoA agreement to provide PPR vaccine and contract BRAC to implement PPR campaign
- Task I.D.2.2 Draw blood samples before campaign to test efficacy of vaccination
- Task I.D.2.3 Execute National PPR vaccination campaign with BRAC as lead agency
- Task I.D.2.4 Draw blood samples after campaign to test efficacy of vaccination
- Task I.D.2.5 Test collected blood samples for PPR antibody at Fendell Laboratory and submit results

Activity I.D.3 Access to Veterinary Treatment and Drugs

- Task I.D.3.1 Identification of 154 CAHWs among new Lead Farmer Groups, two people per group
- Task I.D.3.2 Training of CAHWs on basic goat health care
- Task I.D.3.3 Identify eight new agro-pharmacists and acquire MoA authorization for them to stock veterinary drugs
- Task I.D.3.4 Train eight new agro-pharmacists in the use of goat veterinary drugs
- Task I.D.3.5 Implement 50-percent subsidy goat voucher program (Input Supply)
- Task I.D.3.6 Implement a voucher program with agro-pharmacists providing drug kits to CAHWs
- Task I.D.3.7 Train farmers on nutrition and good animal husbandry practices

Activity I.D.4 Establishment of Nuclear Breeding Herd

- Task I.D.4.1 Sign a MoU with CARL stating CARL's commitment to allocate funds to hire people to maintain and manage the nucleus breeding herd

- Task I.D.4.2 Identify appropriate nucleus breeding herd site at CARI suitable for housing the nucleus breeding herd
- Task I.D.4.3 Develop a nucleus breeding herd management manual with CARI
- Task I.D.4.4 Identify source of 100 trypanosome-tolerant, performance-proven, breeding goats in the The Gambia or Senegal
- Task I.D.4.5 Initiate procurement process for the nucleus breeding herd
- Task I.D.4.6 Organize for the relevant permits for importation through CARI
- Task I.D.4.7 Organize international transport and in-country logistics for shipment of the herd
- Task I.D.4.8 Travel to The Gambia or Senegal with CARI breeder to select 100 animals
- Task I.D.4.9 Transport the herd to Liberia and deliver the herd to CARI

Activity I.D.5 Formalizing Livestock Marketing

- Task I.D.5.1 Develop database of traders willing to participate in market events with farmers
- Task I.D.5.2 Identify BRAC and Samaritan Purse goat farmers willing to participate in market events
- Task I.D.5.3 Train goat farmers on selection of animals for sale and fattening techniques
- Task I.D.5.4 Identify location venues for goat marketing events at county and cluster level
- Task I.D.5.5 Develop and air radio advertisements for promotion of the goat marketing events
- Task I.D.5.6 Facilitate one marketing event every month in each county

Activity I.D.6 Improved Nutrition for Higher Livestock Value

- Task I.D.6.1 Develop databases for forages most suitable for Liberia
- Task I.D.6.2 Test cultivation of selected forages to determine which ones have highest yields and rates of success
- Task I.D.6.3 Train farmers in growing selected forages and using forages in feeding
- Task I.D.6.4 Provide cuttings of successfully cultivated forages to farmers

3. Mainstreaming Gender, youth, ICT and Environmental Compliance

Interventions conducted by USAID FED as well as any ICT and environmental compliance activities will be deliberately inclusive of gender (women) and youth promotion in goat value chain activities, whether as providers or recipients. Strategies developed will ensure that goat value chain activities utilize appropriate ICT technologies and follow environmental compliance regulations and plans.

4. Geographical Plans

It is anticipated that goat value chain activities will directly reach at least 15,000 beneficiaries through the networks and platforms created during the life of project. This is exclusive of additional individuals who will be reached via radio programs within the four core counties of Bong, Nimba, Lofa and Grand Bassa.

County	Goat sites	# of farmers	Goats	CAHWs	Agro-pharmacists	Sawyers	Carpenters
Bong	22	1,050	5,250	44	2	2	2
Nimba	26	840	2,520	52	2	2	2
Lofa	19	880	1,760	38	2	2	2

Grand Bassa	10	140	140	20	2	2	2
TOTAL	77	2,910	9,670	154	8	8	8

5. Risk Analysis and Mitigation Plan

Deliverable	Target Completion	Responsible Staff/Unit	Risk	Mitigation Strategy
National herd vaccinated against PPR (122,000)	December 2014	BRAC, USAID FED Goat Value Chain Team	High: The Ebola crisis may result in delay in conducting the survey in 2014	PPR campaign can be conducted during early 2015
Establishment of 77 goat production sites	September 2015	Goat Value Chain Team	Low: Availability of farmers in adequate numbers is required.	Beneficiary selection to start in FY14
Provide CAHWS with necessary inputs	May 2015	FED Goat Value Chain, Input Supply	Low to medium: CAHWS may not have cash flow to redeem vouchers	Link CAHWS to financial service providers through Component Two
Establish nucleus breeding herd	June 2015	Goat Value Chain Team/FED Engineer	High: Importation of the goats from The Gambia or Senegal may be complicated by logistics and/or mortality rates	CARI quarantine facility has already been built Explore air transport to reduce travel time for the herd
Establishing market and trade events	September 2015	FED Goat Value Chain Team	Low: Goat demand exists in Liberia but sales in 2014 may be hampered by the Ebola crisis	Identified buyers are already willing to procure goats from the clusters
Improve nutrition for higher livestock value	August 2015	FED Goat Value Chain Team	Medium: The forages introduced will not be compatible with Liberian rainfall patterns and farmers do not have the labor necessary to cultivate this.	Beneficiary selection based on experience with forage production.

6. Partnerships

USAID FED will strengthen partnerships with the following entities:

MoA: To improve overall activities in the goat subsector and carry out already existing policies

BRAC: To carry out the PPR vaccination campaign

CARI: To establish the nucleus breeding herd

Land O Lakes: To partner for the distribution of imported goats and the establishment of the nucleus breeding herd at CARI

Subtask 1.1: Special Studies and MoA Data Collection System Development

A. The Challenge

Over the past decade, aid and development organizations have faced increasing pressure to become more effective and results-oriented. Many have launched agendas of results-orientation and results-based management (RBM), more recently referred to as ‘managing for development results’. Participants of the UN Conference ‘Financing for Development’, in Monterrey in 2002, stressed the need to improve the policy coherence and consistency of donor countries as a means to improve official development assistance (ODA). The Washington and Marrakech Roundtables on Results, 2002 and 2004, respectively, focused specifically on managing for results as a prerequisite for improved aid effectiveness.

The Third High Level Forum³³ on Aid Effectiveness (HLF-3), held in Accra, Ghana in September 2008, was aimed to build on the work of the two previous meetings – to take stock of the progress so far and to accelerate the momentum of change. The Accra Agenda for Action asks the Organization for Economic Cooperation and Development’s (OECD) Working Party on Aid Effectiveness to continue monitoring progress on implementing the Paris Declaration and Accra Agenda for Action and to report back to HLF-4 held in December 2011.

The renewed focus on results reflects an interest within the donor community to better demonstrate the effectiveness of development interventions. In this context, monitoring and evaluation (M&E) is recognized to be a key element. At the same time, weakness in M&E has emerged as a general problem in development work, with the need to improve M&E systems widely acknowledged.

In support of the development of the agriculture subsector, up-to-date information plays a vital role, such as surveys and program monitoring research. In addition, a critical understanding of the constraints and opportunities in each subsector is needed in order to properly come up with improvement strategies. In line with this, USAID FED has been mandated to carry out several studies to support the development of the four selected value chains. However, these studies and analyses will need to be updated regularly as the situation changes.

³³ “The use of monitoring and evaluation in agriculture and rural development projects - Findings from a review of implementation completion reports” by Dieter Muller-Praefcke and Alia Afshar.

B. USAID FED LOP Objectives and Status

I. LOP Objectives/Targets

USAID FED's main objective is to have quality agriculture subsector data available to be used during the life of the project.

To ensure this, USAID FED will work in conjunction with the Government of Liberia (GoL) and in each of the six counties to support baseline surveys — soil, staple crop production and workforce surveys — as well as collecting and reporting all data by gender. In the four core target counties (Lofa, Grand Bassa, Bong and Nimba), the project will carry out selected studies. Examples of these studies include: gender analysis of women's role in selected value chains; gap analysis of farmer versus recommended; improved practices in selected value chains; innovations in agriculture extension for application in Liberia; and attitudes towards agriculture as a livelihood, including consideration of soil carbon/greenhouse gas. In addition to conducting the study, the project will collect and report all data by gender.

2. Milestones in FY14

2.1 Supporting establishment of data collection system for MoA

The USAID FED support to the MoA's effort to establish a data collection system in FY14 focused on the equipment procurement and the capacity of the field staff in data collection. During this period, the program selected the Bong field office as the pilot county, and plans to replicate the program in the other three counties in FY15 and FY16. Four District Agriculture Officers covering Bong's nine districts were selected to be trained in the effective use of data collection instruments for periodic reporting.

To support the establishment of data collection system for the MoA in Bong County, FED procured and delivered one motorcycle, four personal digital assistants (PDAs), four global positioning satellite (GPS) devices, four internet modems, four laptops and one printer to be used during the pilot phase program.

2.2 Conducting Special Studies and Surveys

The Rapid Rural Assessment (RRA) was launched in March 2014 to identify the following: different categories of lowland, major production locations for rice, cassava, vegetables and goats; major markets; key donors and stakeholders operating in the areas; processing and storage facilities; and support services in line with agriculture and private entrepreneurs. The study was put on hold because the sub-contracted LINGO suspended its work due to the Ebola outbreak.

The Rice and Vegetable Farmers' Household Surveys conducted in November to December 2013 by a local NGO established that farmers were adopting some of the improved technologies and management practices introduced by USAID FED. These practices include: planting in rows, selecting and using improved seed varieties and the application of fertilizers on their own fields. The studies also revealed that USAID FED-supported farmers are getting better yields and quality of produce in comparison to non-USAID FED-supported farmers.

The Peri-Urban Agriculture Voucher Special Study conducted in July 2014 revealed that farmers are unable to pay for the high cost of agriculture inputs including improved seed varieties (chili, lettuce, cucumber and watermelon), fertilizers, and pesticides such as decis, and copper-based fungicides. Even

on a 50/50 cost-share basis, in which farmers are expected to pay US\$80 for a package of assorted agriculture inputs, the study showed that most individual farmers and farmer groups are unable to afford this cost.

The study also revealed that the quantity of inputs offered by the voucher package was either too large or too little for the farmers' needs. Additionally, farmers are able to purchase the seeds and farming inputs included in the voucher at cheaper prices from bordering countries, although there is no assurance about the inputs' quality. Lessons learned from this study will guide the strategy for the voucher/cost-share program in the vegetable value chain for FY15. Another example: Water pumps are very expensive and not normally affordable for vegetable growers, yet needed in order for them to produce economical yields during the dry season. Cost-sharing on this equipment could be more beneficial and attractive to vegetable producers.

The Nutrition Extension Messaging survey was conducted to establish the number of individuals who are receiving nutrition messages through program interventions. The results of the study showed that 69.9 percent of USAID FED beneficiaries, i.e. 28,500 individuals, received at least one nutrition message from USAID FED.

The FY13 Cassava Yield Special Study is ongoing, and the results of this study will be reported in Q1 of FY15. The results from this study will compare the yield of improved technologies introduced by USAID FED to cassava farmers who participated in the FY13 cassava program, to that of the traditional methods of non-USAID FED farmers. The average yield derived from this study will be used as benchmark for cassava yield targets for FY15 and FY16.

3. Major Challenges in Programmatic Implementation

USAID FED's Monitoring and Evaluation team leads the implementation of Sub-task I.I. This arrangement is meant to leverage the expertise of the M&E team and eventually provide MoA's M&E team with a suitable data collection system and analysis.

The main challenge in FY14 was the competition for time and personnel resources since no additional personnel were hired specifically for the sub-task. In many instances, the M&E team confused this task – of helping MoA in setting up its own data collection system and analysis – with the core tasks of the M&E team for the FED program.

Additionally, there was a change in the leadership of the M&E team as the former M&E specialist departed in January 2014. The new M&E specialist was hired in mid-March 2014, and had to familiarize himself with the state of M&E in the program as well as understand the idea of implementing subtask I.I. It is not a common arrangement for the project's M&E team to carry out a programmatic task such as Sub-task I.I, and the new M&E Specialist also had to understand that he is at the same time the leader for this sub-task.

Another major challenge faced was the lack of capacity among local NGOs to carry out surveys with assurance of quality results. In many instances, the data did not make sense and required a lot of cleaning up.

4. Lessons Learned in FY14

The main mandate of the M&E FED team is to carry out timely monitoring of FED program implementation and feedback to FED leadership in order for management to come up with informed decisions in a timely fashion.

USAID FED's M&E team will continue to take the lead in carrying out subtask 1.1 in order to leverage their expertise with data collection and analysis, however, there is a need to hire a Senior STTA with expertise on surveys and studies, and who will help carry out the surveys to ensure quality results. The STTA will also provide training and technical assistance to one or two local NGOs in order to develop the local capacity to carry out similar surveys and studies in the future.

STTA experts can be very useful on specific thematic areas in providing advice on the content of surveys. Thematic area experts will be needed in carrying out special studies on gender, nutrition, and voucher programs.

For capacity development of the MoA's M&E team, USAID FED should hire a Liberian senior M&E officer in order not to take the existing personnel away from their core M&E duties. Having personnel focused on supporting the MoA will also ensure this task is being carried out.

C. Approach to Achieve LOP Target/Objective and FY15 Objective

1. Strategy for FY15 and FY16

Special Studies

In FY15, FED will continue to carry out special studies that will help to inform programming towards the pursuit of USAID FED's mandate. These studies will provide a basis for USAID FED to adjust targets and/or enhance strategies in FY15 and FY16 on specific thematic areas as discussed in the next section.

FED will also continue to carry out surveys on yields of rice, cassava and vegetables to determine impact of the program's intervention and at the same time provide a realistic benchmark for targets.

In FY16, the program will focus on determining outcomes and impacts of interventions. The studies will aim to draw lessons from USAID FED's experiences that could be helpful for future USAID and other donor programming on food security, nutrition and agriculture value chain development in Liberia and in countries with similar agro-climatic, economic and socio-cultural environment.

Supporting the Establishment of MoA Data Collection System

In FY15 and FY16, the program will endeavor to set up a data collection system in all MoA offices in the four core counties of the project and link these systems to the MoA's central office in Monrovia. In FY15, the focus will be equipping all four MoA offices in Bong, Lofa, Nimba and Grand Bassa counties with the necessary equipment to collect, process, analyze and store data. The aim is for the Bong County office to have a fully functional M&E system that will serve as model for the three other

counties. Replication in the other counties will commence in FY15 and will be completed in Q1 of FY16. By the middle of FY16, MoA offices in Nimba, Lofa and Grand Bassa should be transmitting data to the MoA HQ in Monrovia. For the system to be fully functional, USAID FED will also provide the necessary equipment and skills training to the M&E staff of the MoA in Monrovia.

2. FY15 Anticipated Achievements

In FY 15, USAID FED will carry out the following special studies and surveys:

- Yield Assessment of FY13 Cassava Varieties (4 M x 3 M) plot sampling 2015
- Yield Crop survey 2015 (Cassava and Rice)
- Agricultural Costs Baseline Survey 2015
- Vegetable Yields and Sales Analyses
- Sales Values and Volumes Survey (rice and cassava) 2015
- Rapid Rural Assessment (completion in 2015)
- Post-Harvest Losses in Rice, Vegetables and Cassava
- Goat Production and Losses using Shelters
- Optimal Goat Shelter Size and Materials
- Household Baseline Study: Dietary Diversity Index (DDI) 2015 (with special focus on women's diet)
- Assessment of the Voucher Program 2014 (Completion in 2015)
- Baseline study on Women's Agriculture Empowerment Index in FED's core counties

USAID FED will strengthen the MoA data collection system through:

- Procurement and setting up of appropriate equipment for the MoA Offices in Nimba, Lofa and Grand Bassa to support the data collection system
- Organization of a technical meeting to review the MOA strategic planning tools
- Training workshops in strategic planning using Results-Based Management, including problems and solutions trees, work breakdown structure and other required tools
- Training of the Bong County MoA Office on data collection, processing and management with SPSS and MS Access relational database
- Ensuring the data collection system in the MoA Bong County office is fully functional
- Training workshops to develop the statistical skills of M&E and extension staff operating in Bong, Nimba, Lofa and Grand Bassa counties

3. FY15 Indicators and Targets

Subtask 1.1 does not contribute directly to the indicators of the Feed the Future Monitoring System (FTFMS).

D. FY15 Work Plan

I. Results Framework for Subtask 1.1

Constraint	Proposed Solutions	Key Activities	Outcomes in FY15	Women & Youth Involvement
<p>The lack of adequate baseline information on the different VC sectors makes it difficult to do an analysis of the impact of the program on these sectors</p> <p>There is no information to suggest if specific VCs have sectorial analysis and an overview that informs development partners and policy makers on VC progress</p>	<p>Carry out survey on non-program beneficiaries and triangulate results with data and information from available agriculture sub-sector data</p> <p>Substantive agriculture surveys and baseline studies results are made available at the MoA and other GoL institutions</p>	<p>Survey average household dietary diversity score.</p> <p>Survey total amount of financing (cash and in-kind) accessed by farmers and agribusinesses through formal, informal, and embedded services.</p> <p>Survey post-harvest losses</p> <p>Study the firms and CSOs engaged in agri-food security related manufacturing, and if they operate more profitably or above cost</p> <p>Survey gross margin per unit of land or animal of selected product</p>	<p>Studies conducted and reports available</p>	<p>A data collection plan should show disaggregation by gender and locations of the results presented</p>
<p>There is a lack of access to information on potential opportunities to increase women and youth participation in agriculture</p>	<p>Carry out study on opportunities to increase women and youth participation in agriculture</p>	<p>Conduct study to understand the issues, challenges and opportunities for women/youth participation in agriculture</p>	<p>Two sectoral studies conducted</p>	<p>The study on youth should be designed to understand issues, challenges and opportunities for young women (16-35 years old) in agriculture</p>
<p>The Ministry of Agriculture has limited technical capacity (availability of personnel and skills) and equipment for effective monitoring and reporting</p>	<p>Develop M&E tools and provide equipment to MoA offices in the four core counties</p> <p>Design online database and other necessary information systems</p> <p>Support the development of the MoA's M&E</p>	<p>Procurement of technical equipment and materials</p> <p>Review and validate reporting tools, templates and results framework of the MoA</p> <p>Train and pilot the MoA online database in Monrovia and field-based offices</p> <p>Assess the training capacity needs of MoA</p>	<p>An online database designed and operational for both the program and the MoA to capture data from the four main counties of USAID FED interventions</p> <p>FED staff trained to upload/retrieve data from the online database for adequate reporting</p>	<p>N/A</p>

	staff capacity	technical and M&E staff Train on Results-Based Management for technical and M&E staff of the MoA	MOA staff trained to upload/retrieve data from the online database for adequate reports	
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2. Work Breakdown Structure for Subtask 1.1

Deliverable 1.1.1 USAID FED Sectorial Studies Conducted

Activity 1.1.1.1 Challenges and potential of women/youth participation in agriculture tracking

- Task 1.1.1.1.1 Preparation and approval of concept notes to conduct the study
- Task 1.1.1.1.2 Review, validation and approval of the Scope of Work (SOW)
- Task 1.1.1.1.3 Recruitment of the STTA/NGO
- Task 1.1.1.1.4 Training for enumerators
- Task 1.1.1.1.5 Field implementation of the Women and Youth Participation in Agriculture Study
- Task 1.1.1.1.6 Analysis and report review and approval by the technical team

Deliverable 1.1.2 USAID FED Program Indicator Surveys Conducted

Activity 1.1.2.1 Average Household Diet Diversity Score

- Task 1.1.2.1.1 Preparation and approval of concept note for conducting the study
- Task 1.1.2.1.2 Review, validation and approval of the SOW
- Task 1.1.2.1.3 Recruitment of the STTA/NGO
- Task 1.1.2.1.4 Field implementation of the Diet Diversity Score Study
- Task 1.1.2.1.5 Analysis and report review and approval by the technical team

Activity 1.1.2.2 Total amount of financing accessed by farmers and agri-business

- Task 1.1.2.2.1 Review and develop/modify tools for tracking financing
- Task 1.1.2.2.2 Tracking plan/timeline/responsibility developed for data acquisition
- Task 1.1.2.2.3 Organize a training workshop for farmers/NGOs on financing assessments
- Task 1.1.2.2.4 Progress on data collection report quarterly implementation
- Task 1.1.2.2.5 Access to Finance by farmers and agri-business quarterly progress report

Activity 1.1.2.3 Post-harvest losses

- Task 1.1.2.3.1 Preparation and approval of concept note for rice and cassava
- Task 1.1.2.3.2 Design, review and validate SOWs for implementation
- Task 1.1.2.3.3 Recruitment of STTA/NGO
- Task 1.1.2.3.4 Conducting Post-Harvest Losses Study for cassava
- Task 1.1.2.3.5 Conducting Post-Harvest Losses Study for rice
- Task 1.1.2.3.6 Report and disseminate the STTA report for cassava

Task I.1.2.3.7 Report and disseminate the STTA report for rice

Activity I.1.2.4 Firms and CSOs engaged in agriculture operating more profitably

Task I.1.2.4.1 Preparation and approval of concept note for firms and CSOs in agriculture

Task I.1.2.4.2 Design, review and validate SOWs for implementation

Task I.1.2.4.3 Recruitment of STTA/NGO

Task I.1.2.4.4 Baseline Assessment tools development and validation

Task I.1.2.4.5 Conduct the Baseline Assessment of Firms and CSOs

Task I.1.2.4.6 Report and disseminate the baseline assessment of firms and CSOs results

Activity I.1.2.5 Gross margin per unit of land or animal of selected product (baseline)

Task I.1.2.5.1 Organizing internal technical meetings to come up with an approach in determining baselines

Task I.1.2.5.2 Carry out surveys to gather missing baselines and process the data

Task I.1.2.5.3 Consensus with management and USAID on baselines

Deliverable I.1.3 USAID FED equipment available and delivered to MoA for effective Monitoring

Activity I.1.3.1 Increasing equipment and materials needs assessment of the MOA

Task I.1.3.1.1 Obtain written commitment from MoA to provide resources to support this activity

Task I.1.3.1.2 Develop activity in TAMIS

Task I.1.3.1.3 Procurement of appropriate equipment

Task I.1.3.1.4 Disposal of equipment to MoA County Offices in Lofa, Nimba and Grand Bassa

Deliverable I.1.4 USAID FED online database available and operational

Activity I.4.1.1 Recruitment of data repository system consulting firm

Task I.1.4.1.1 Contracting of data development firm

Activity I.4.1.2—Piloting/quality assurance of the database system design

Task I.4.1.2.1 Training materials, manual and modules approval

Task I.4.1.2.2 Assisting FED and MoA staff in the installation and utilization of the online database and tools

Deliverable I.1.5 Developing capacity of MOA staff

Activity I.1.5.1 Assessment of the training capacity needs of technical and M&E staff

Task I.1.5.1.1 Preparation and approval of concept notes to conduct the training

Task I.1.5.1.2 Recruitment of STTA/NGO to facilitate the training

Task I.1.5.1.3 Conduct training workshop

Deliverable I.1.6 Technical assistance provided to all components for special studies

Activity I.1.6.1 Impact Study of Rice Commodity

Task I.1.6.1.1 Prepare for approval of concept notes to conduct the study

Task I.1.6.1.2 Design, review and validate SOWs for implementation

Activity I.1.6.2 Outgrowers Expansion Assessment

Task I.1.6.2.1 Prepare for approval of concept notes to conduct the study

Task I.1.6.2.2 Design, review and validate SOWs for implementation

Activity I.1.6.3 Cassava Varieties Yield Assessment

Task I.1.6.3.1 Prepare for approval of concept notes to conduct the study

Task I.1.6.3.2 Design, review and validate SOWs for implementation

Activity I.1.6.4 Assessment of Integrated Pest Management (IPM) on Vegetables

Task I.1.6.4.1 Prepare for approval of concept notes to conduct the study

Task I.1.6.4.2 Design, review and validate SOWs for implementation

Activity I.1.6.5 Study on the Effects of Extension Materials

Task I.1.6.5.1 Prepare for approval of concept notes to conduct the study

Task I.1.6.5.2 Design, review and validate SOWs for implementation

Activity I.1.6.6 Impact of the Goat Marketing Platform

Task I.1.6.6.1 Prepare for approval of concept notes to conduct the study

Task I.1.6.6.2 Design, review and validate SOWs for implementation

3. Mainstreaming Gender, Youth, ICT and Environmental Compliance

The subtask I.1 does not have farmers as direct beneficiaries. The main clients of the subtask are the USAID FED components and the Ministry of Agriculture.

4. Geographic Plans

Special studies will be conducted in all four core counties and the two subsidiary counties. The support to the MoA will cover the Central Office in Monrovia and begin with a pilot activity in Bong County. Lessons learned and best practices will be replicated in Nimba, Grand Bassa and Lofa counties simultaneously.

5. Risk Analysis and Mitigation Plan

Deliverable	Target Completion	Responsible Staff/Unit	Risk	Mitigation Strategy
USAID FED sectorial studies	October to September	Joseph Morris, Sneh Kofa, M&E team	Due to the Ebola situation,	Prioritize studies and surveys that can be realistically done without

conducted	2015		<p>STTAs cannot mobilize before March 2015</p> <p>Insufficient capacity of partners to meet obligations and potential for relationship breakdown</p> <p>Political instability and lack of interest from local NGOs to carry out surveys and studies due to the Ebola.</p>	<p>MTTA support on the ground</p> <p>Remote support from international STTAs where possible</p> <p>Clearly articulated SOW for STTA/NGO/staff conducting these sectorial studies</p> <p>Increased involvement of technical teams and stakeholders emphasizing planning and coordination</p> <p>Conduct rapid surveys, involving smaller sample groups and hiring permanent enumerators as ICs to be trained by USAID FED on rapid surveys</p> <p>The remote support to be made by international staff will include essential survey tools with data analysis that can also be done remotely</p>
M&E tools developed and equipment procured for MoA offices in Grand Bassa, Nimba and Lofa counties	April to October 2015	William Massaboi, Sneh Kofa, M&E	<p>Political instability and the ongoing Ebola crisis</p> <p>Obstacles in obtaining up-to-date information</p>	<p>Review, revise and adapt tools when necessary in line with GoL policy</p> <p>Monitor the socio/political environment, country emergency warnings, domestic and international security</p>
Online Database at MoA office in Bong County functional to process, store, upload and/or retrieve county data	<p>October to March 2015</p> <p>July to September 2015</p> <p>Monthly</p>	Senior M&E/Information Management Systems Officer	<p>Obstacles in obtaining up-to-date information.</p> <p>Delays in recruiting Senior M&E/Information Management System officer</p> <p>Natural Disaster / Political Instability.</p>	Review and revise in a timely manner the program activities and engagements in line with GoL policy

MoA staff trained in strategic planning and data management	April 2015	William Massaboi	Potential relationship breakdown between MoA and FED Political instability	Joint planning with MoA M&E unit in Monrovia in Q1 of FY15 Maintain strong, accurate and regular lines of communication
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Subtask 1.2: Improved Access to Agricultural Inputs

A. The Challenge

The highly subsistence nature of the food crop subsectors of Liberia's agriculture sector results in a very low demand for agricultural inputs. There is no commercial production and marketing of seeds, and farmers generally use seeds from the previous cropping season. As they do this over and over, yields decline significantly over time.

The absence of a seed policy and the farmer's lack of motivation to produce beyond subsistence due to a limited market for locally produced rice are major deterrents to the development of a commercial supply chain for seed rice. As a market for locally produced rice, cassava products and vegetables slowly develop — due to USAID FED interventions — it becomes imperative for farmers to deliver sufficient volumes and quality of produce in a consistent manner to gain the trust of the buyers and to support continuing development of these markets.

The biggest challenge is how to convince farmers of the importance of agricultural inputs such as good seeds of improved varieties and the use of fertilizers and chemicals to control pests and diseases, increase the productivity of their farms and expand production. Once the farmers are convinced, the next major problems are the availability and access to these inputs.

Availability of certified good seeds is hampered by the absence of a seed certification system in Liberia. In August 2014, the ECOWAS regulatory framework on seed was published in Liberia's gazette, and became part of the laws of the land. Although this was a major success, this must be followed up by establishing an implementing infrastructure to ensure enforcement.

Access particularly to fertilizers and pesticides is hampered by lack of financial capacity. Further, farmers till small plots, and the packaging sizes of fertilizers and agro-chemicals are too big for individual farming needs.

Finally, in places where farmers have used fertilizer, usage is not based on actual requirements according to soil analyses and crop needs. There is no soil map and there are no credible laboratories for soil testing in the country. As a result, blanket application of fertilizer has been the norm.

B. LOP Objectives and Status

I. LOP Objectives/Targets

USAID FED's objectives for FY15 and FY16 are to ensure that the processes of improved seed and planting material production and certification are put in place in order to meet future requirements for quality seed and planting material that can improve crop yields of rice, cassava and horticulture farmers.

The objective is to ensure that at least 2,000 MT of improved rice seeds are made available and to provide over 100,000 farmers access to improved planting materials. Building a seed certification system will help ensure that seeds produced by USAID FED-supported farmers are of genuine varieties, high in purity and germination capacity and free from pests and diseases. The program also intends to improve efficiency of inorganic fertilizer and organic fertilizer mixtures.

2. Milestones in FY14

Seed certification program and rice seed multiplication

Protocols for seed production and training manuals have been developed in collaboration with the Central Agricultural Research Institute (CARI). A total of 17 Liberian seed inspectors were trained and accredited by CARI, and 100 copies of the training manual were printed for use by CARI and the seed inspectors.

In FY14, 22 Rice Seed Multiplication (RSM) sites comprising 40 hectares of 10 lowland sites and 120 hectares of 12 upland sites were established. These sites are undergoing inspections by the 17 trained seed inspectors to ensure that the protocols for certified seed are adhered to. The 22 sites are expected to produce at least 400 MT of good seeds of the improved varieties: Nerica L-19, Nerica L-14 and LAC23.

Access to improved cassava planting materials

USAID FED and CARI collaborated to import 44,000 cassava cuttings from the International Institute for Tropical Agriculture (IITA). These cuttings are improved varieties that are high-yielding and disease-resistant. They are currently being screened in controlled sites managed by both CARI and FED.

Forty commercial nurseries on a total of 60 hectares were established in Nimba (24 hectares), Grand Bassa (18 hectares), Bong (12 hectares) and Lofa (6 hectares). These nurseries are very important in providing access to good cassava planting materials for an estimated 15,000 cassava farmers.

Improving access to veterinary supplies

A total of 103 goat animal health starter kits, valued at US\$107 each, were distributed through eight identified agro-pharmacists to 206 trained Community Animal Health Workers (CAHW) in the four counties. USAID FED partnered with BRAC Liberia to identify the agro-pharmacists. The starter kits will ensure farmers have access to affordable animal health care supplies and services at a rural level.

Integrated Soil Fertility Management (ISFM) and Improved Fertilizer Efficiency

Scaling up UDP

In FY14, USAID FED scaled up UDP trials. A total of 139 sites showcased the use of UDP. Fifty sites demonstrated UDP in comparison with urea broadcast and zero fertilizer use, and the remaining 89 sites showcased UDP on a one-hectare plot at each site. Harvesting will be carried out in the first quarter of FY15, and the impacts of UDP will be determined.

UDP and SRI field trial

In line with USAID FED's mandate to improve efficiency of fertilizer use, FED is carrying out research on the impact of the combined use of Urea Deep Placement (UDP) and System for Rice Intensification (SRI) on the productivity and profitability of rice farming. This approach recognizes the advantages of SRI and UDP and would like to determine if a combined use of both will further improve profitability of rice farming. The research will also determine the requirements for which UDP and SRI could work optimally.

ISFM in cassava farming through crop rotation with legumes

A total of 6.06 MT of red peanut was distributed to 600 cassava demonstration sites across Bong, Nimba, Lofa and Grand Bassa to encourage crop rotation. The aim is to discourage shifting cultivation and encourage sedentary farming through soil nutrient replenishment.

Soil testing and analysis

Expert soil chemist, Dr. Sampson Birikorang from the International Fertilizer Developmental Center (IFDC), was engaged to conduct training on soil testing using Hach soil testing kits. A total of 15 participants were trained, including USAID FED staff, personnel from the USAID FED-supported Community Colleges, BWI, University of Liberia and Cuttington University. USAID FED also contracted local soil chemist, Emmanuel Lincoln, who developed a training manual and conducted soil sampling training in Montserrado, Bong and Nimba counties for 58 participants. The participants included USAID FED extension staff, personnel from MoA, the community colleges and universities.

A total of 320 samples were collected from the UDP trial sites, of which 20 samples of 100 g each (2 kg) were sent for testing to the IFDC Laboratory in Alabama, USA. The 300 samples of 100 g each (30 kgs) were meant to be analyzed using the Hach soil test kits. However the arrival of the Hach kits was delayed due to insufficient supply of some re-agents at the manufacturer. To remedy the situation, USAID FED decided to send the 300 samples to CSIR Ghana for analyses. Based on findings from the visited sites, Dr. Upendra Singh's report recommended the use of TSP and MOP as a replacement to NPK.

3. Major Challenges in Programmatic Implementation

Engaging private sector in seed production and marketing

A major challenge encountered in FY14 was finding private sector partners for rice seed marketing. Eight private sector firms were assessed for potential partnerships for commercial rice seed production and marketing. Wienco and Arjay Farms were selected for having the highest potential for engagement. Wienco, an agricultural input supplier, later decided the initiative is a risky venture in the short-to-

medium term. Arjay Farms has infrastructure developed for rice seed marketing and has been producing rice seed for sale to the MoA and NGOs.

USAID FED has supported Arjay Farms previously and needs to sort out some issues before new support can be provided. The assessment provided by Arjay Farms on its outgrower seed production activity showed that it was able to recover only 2.5 MT of seed rice out of the 5.625 MT of seeds that it distributed for planting to its 150 out growers. This poor recovery was attributed to constraints in cash flow that inhibited Arjay Farms from procuring more seed from outgrowers.

Stimulating demand for fertilizers in Liberia

Low redemption of vouchers during the dry season/vegetable season was witnessed. During a quick survey, one of the factors cited by farmers was the high cost of the voucher (US\$80 per voucher). Farmers found inputs imported from Guinea cheaper than the inputs subsidized through the voucher program. Even after the EO 64, agro-input suppliers maintain that they find it difficult to access the duty-free privilege. They typically opt to pay duties for their imported input supplies since it will cost them more in terms of time and effort to take advantage of the duty-free privilege. USAID FED will work with the MoA, MoCI, MoF and the private sector in FY15 to streamline the process so that benefits from this incentive flow to the farmers.

Soil sampling, testing and analysis

Fertilizer application in Liberia is based on generic recommendations, because the soil has not been analyzed in terms of nutrient content. To promote more efficient use of inorganic fertilizers, FED undertook soil sampling, testing and analysis of its lowland UDP sites. Since this is a new endeavor in Liberia, carrying this out on 100 sites has been very challenging. Implementation was further challenged by competing priorities of the extension officers who were also doing extension work, causing a delay in the activity until the rainy season. This in turn further complicated the process because the samples were soaked and required longer time for drying. Due to the absence of soil-testing laboratories in Liberia, the program sent the samples to Ghana for testing, which took over a month to analyze the samples.

Organic fertilization in Liberia

One of USAID FED's mandates is to develop organic fertilizer mixes. The challenge in Liberia is the absence of sufficient animal manure, which is a key ingredient in organic fertilizers. In FY14, the program decided to promote composting using crop residues. Processing Enterprise and Composting specialist, Steve Atkinson, was engaged to assess potential private sector firms that could develop commercial composting as a business. Two enterprises based in Monrovia—Safety Plus Inc. and Green Center—were assessed. Both firms have already made investments in various forms of waste management. However, the assessment concluded that investment in commercial compost continues to be a risky venture as the demand for commercial compost by farmers in Liberia remains extremely low due to lack of knowledge and financing, as well as the lack of motivation to shift from traditional to improved practices of production.

4. Lessons Learned in FY14

Improving access to good seeds

It will be important to evaluate the rice seed requirements of Liberia in the next three to five years with the commercialization of the rice subsector. This information could help convince reliable private sector players to invest in rice seed marketing. In the meantime, alternative approaches to market seeds other than supporting larger private sector actors for commercial production and distribution will have to be found.

On stimulating demand for agro-inputs

Low redemption of vouchers during the dry season/vegetable season was witnessed. During a quick survey, some of the factors cited by farmers included the high cost of the voucher (US\$80 per voucher). Farmers found inputs imported from Guinea cheaper than the voucher subsidy. Additionally, farmers were burdened with existing loans that they had to meet and the voucher composition did not give farmers the chance to choose inputs of their choice. Furthermore, most agro-dealers did not conduct marketing campaigns to persuade farmers to redeem vouchers. Due to the low turn-out of the voucher program for the dry season, the wet season vegetable voucher program was cancelled. USAID FED has to test other approaches toward stimulating demand for agro-inputs.

Optimal fertilizer mix for more efficient use of inorganic fertilizers

The challenges USAID FED encountered with introducing a new practice, i.e., soil testing and analysis as a basis for fertilization, clearly show that the program may need to recalibrate expectations of the activity results. To facilitate promotion of optimal fertilizer mix, USAID FED will try to organize the areas by zones based on commonality of soil analysis. This will need the assistance of a certified soil scientist to facilitate implementation. A voucher program for fertilizer products: UDP, Triple Superphosphate (TPS) and Muriate of Potash (MoP) based on zones could then be supported.

Alongside the development of a soil map, the program will promote the analysis of individual farmer's plots, especially in areas that are close to the Centers of Excellence where soil laboratories will be established. In the long-term, the view is to have farmers collecting soil samples from their individual plots, sending these samples to soil laboratories for testing, and customizing the fertilizer quantities and mix based on the soil analysis and the crop that they will cultivate.

USAID FED will also pilot a system whereby dealers of fertilizers will provide soil testing as an embedded service. Details of the concept will be finalized together with the agro-dealers, the CoEs and the farming groups that will participate in the pilot.

Organic fertilization in Liberia

In order to develop a successful commercial compost enterprise, an awareness campaign needs to be undertaken with farming groups to stimulate demand for organic fertilizer in sufficient volumes. The capital layout for existing compost enterprises was designed by NGOs and is not profitable. At this time, it doesn't seem feasible for a composting enterprise to thrive in Liberia. More efforts are needed to demonstrate the benefits of composting. For example, vegetable farmers could be trained to produce and apply compost within their clusters as a first step to demonstrating these benefits. Farmers would have to be encouraged to grow or intercrop nitrogen-rich plants within their fields to ensure the supply of raw materials for their compost.

Integrated Soil Fertility Management

Intercropping and crop rotation using peanuts and cow peas have been well-received by farmers. However, with more farmers adopting this practice, current markets for peanuts and cowpeas could get saturated. In FY15, the program will have to engage in supporting value addition and marketing of peanuts and cowpeas to ensure continued expansion of adoption of ISFM using legumes, especially in the upland areas in order to discourage shifting cultivation.

C. Approach to Achieve LOP Objectives and FY15 Objectives

I. Strategy for FY15 and FY16

In FY15 and FY16, USAID FED will work toward ensuring that Liberia has developed the capacity to produce good seeds of improved varieties of rice and vegetables and disease-free cassava planting materials of varieties required by the buyers. Overall, the program aims to produce an additional 1,500 MT of good rice seeds through the last quarter of 2016 calendar year. This will bring the total to 1,724 MT of good seeds of improved rice varieties produced during the life of the project.

To provide 100,000 farmers with improved access to good planting materials, USAID FED will continue to support commercial production and marketing of rice seed and cassava cuttings. This will be done by expanding the nurseries and seed production areas and adding more nursery operators and seed producers. Seed and seedling producers for vegetables will also be supported.

In line with integrated soil fertility management (ISFM) and organic fertilizer mix, the program will continue to promote crop rotation and intercropping with legumes that also have good market potential in Liberia, such as peanuts and cowpeas. To encourage adoption of this ISFM technique, USAID FED will provide assistance from seed to market by supporting seed production of peanuts and cowpeas, as well as value addition and marketing of these crops and their processed forms under its peri-urban agriculture activities or support to youth and/or women-owned agribusinesses.

The scaling up of UDP demonstration will showcase a more efficient way of fertilizer use to more farmers in a wider area. With demonstration of UDP's positive impact on the profitability of rice farming, USAID FED will begin including UDP in the package of inputs that will be introduced to farmers either via voucher program, embedded financing or other alternative demand-stimulation techniques in FY15. To facilitate adoption of optimal fertilization based on soil analysis, programmatic areas will be divided into zones based on the result of the soil tests conducted in FY14. Fertilizer rate application combining UDP with MoP and TSP will be prepared for rice.

USAID FED will also undertake adaptive research trials on integrated UDP-SRI techniques with the aim of determining impact of combining UDP with the SRI technology on the profitability of rice farming. Since SRI is sensitive to water management control, UDP and SRI will be tested in areas with year-round supply of water and will be compared with those using only UDP in the same areas.

Composting will be supported more as a farm-level initiative rather than a commercial one. The emphasis will be to demonstrate the positive effect of using crop residues and animal refuse on yield and on profitability. The composting facilities at BWI will be supported to attempt commercial production. For the other CoEs, composting facilities will be part of the practical skills development under two courses: 1) soil fertility and crop nutrition, and 2) farm soil management. These facilities can also be used for training purposes and community outreach.

2. FY15 Anticipated Achievements

Commercial Production and Marketing of Rice Seeds

- Produce 790 MT of improved rice seeds produced on rice seed multiplication (RSM) sites, by continuing farmers, seed rice producers and WAAPP
- 22 RSM sites certified by Africa Rice toward production of improved rice seed
- 18,200 farmers are using good seeds in rice production on 4,873 hectares
- Carry out a study to determine rice seed needs to support projected expansion in line with the objective of at least maintaining Liberia's self-sufficiency rating in rice supply
- Identify new rice seed multiplication sites and train additional farmers for rice seed production in preparation for expansion of seed production in FY16
- At least one medium/large private sector firm undertaking rice seed marketing in partnership with USAID FED
- Community store outlets of rice seeds identified and enabled to process, store and sell rice seeds
- Pilot group marketing and bulk procurement of rice seeds among farming groups/association in the four counties
- Support implementation of the seed regulations that have been recently published in the National Gazette

Commercial Production and Marketing of Improved Cassava Cuttings

- Improved cassava varieties from the 44,000 cuttings imported in FY14 are released by CARI and distributed to 40 commercial nurseries for multiplication
- 40 commercial cassava nurseries register as businesses, receive training in business, and develop business plans with production and sales expansion projections
- 40 commercial cassava nurseries produce 15 million (25 cm dimension) cassava cuttings, valued at US\$250,000, to be sold to more than 12,960 farmers
- 25,000 cassava farmers are planting disease-free cassava cuttings of improved/appropriate cassava varieties
- Carry out a study to determine demand for cassava cuttings in the next five years and develop a plan for expansion of commercial nurseries for inclusion in FY16 Work Plan

Access to good seeds of vegetables and legumes

- 3,265 hectares of upland rice and cassava will be supported for seed production of peanuts and cowpeas

- One private sector firm selected and assisted to develop a locally branded seed package to cater to requirements of vegetable farmers
- Disease-resistant and high-yielding varieties of selected vegetables will be identified and introduced to vegetable farmers
- Support a private sector aggregator or input supplier to embed supply of seeds as part of contract-growing scheme

Improving Access to Fertilizer and Other Agricultural Inputs

- Support at least one private sector player to embed fertilizer and pesticides as part of an integrated agribusiness operation (inputs to sale)
- Support bulk procurement by farmer groups/associations through voucher program
- Pilot sale of fertilizers/pesticides through rice business hubs and/or alternative community outlets
- Support agro-input suppliers in determining optimal packaging sizes of inputs
- Carry out goat voucher program at 50 percent subsidy with eight agro-pharmacists and 154 CAHWs
- Promote sale of inputs through radio advertising and extension support

Improving Organic Fertilizer Mix and Inorganic Fertilizer Efficiency

- Fertilization requirements of value chain crops in different USAID FED-supported regions determined by recommendations emerging from results of the soil sample tests
- Demonstration of compost preparation and application conducted on demonstration sites in vegetable production clusters
- UDP-SRI research trials conducted on four sites during the dry season and performance measured
- Fertilizer Deep Placement (FDP) field trials carried out with vegetables using briquettes of NPK, TSP or MoP.
- UDP sale promoted via radio advert, embedded financing and voucher program for rice production carried out at FY14 UDP sites
- Pilot use of ICT in soil testing and analysis for rice production
- Support marketing activities of legumes (cow peas and peanuts) produced from FY14 crop rotation and intercropping activities

3. FY15 Indicators and Targets

Deliverables	FY15		
	Total	Women	Youth
Number of rural households benefitting directly from USG interventions	52,726 ³⁴	26,363	23,737
Number of farmers and others who have applied new technologies and management practices as a result of USG assistance	52,726	26,363	23,737
Number of hectares under new technologies or	9,920 ³⁵	4,960	4,464

³⁴ Includes FY14 and FY15 farmers for Rice, Horticulture and Cassava, FY15 goat farmers

management practices as a result of USG assistance			
Number of private enterprises, producers organizations, women's groups, trade and business associations and community-based organizations (CBOs) receiving USG assistance	2,327 ³⁶	1,164	1,047
Number of private enterprises, producer organizations, women's groups, trade and business associations and community-based organizations (CBOs) that applied new technology or management practices as a result of USG assistance	2,327	1,164	1,047
Number of farmers and others having access to improved seeds	35,289 ³⁷	17,645	15,880
Value of new private sector investment in the agri sector or food chain leveraged by FtF implementation	US\$110,000	N/A	N/A
Number of jobs attributed to FtF implementation	279	140	126
Number of public-private partnerships formed as a result of FtF assistance	2,327	1,164	1,047
Number of MSMEs, including farmers, receiving business development services from USG-assisted sources	52,953	26,477	23,829
Number of MSMEs, including farmers, receiving USG assistance to access loans	52,953	26,477	23,829
Number of individuals who have received USG supported short-term agricultural sector productivity or food security training	52,953	26,477	23,829

D. FY15 Work Plan

I. Results Framework for FY15 for Subtask I.2

Constraints	Solutions	Key Activities	Outcomes	Women & Youth
Lack of access to good seeds and planting materials	Establish commercial production and marketing of seeds and planting materials	Support establishment of commercial production and marketing of rice seeds	<p>580 MT of improved upland rice seed produced in FY15</p> <p>210 MT of improved lowland rice seed produced</p> <p>22 Rice Seed Multiplication sites certified by Africa Rice for production of improved rice seed</p> <p>22 new RSM sites identified and additional farmers trained on</p>	<p>Women and youth involved in management of RSM sites</p> <p>Women-owned firms will receive additional support</p> <p>Women will be prioritized for training in management of</p>

³⁵ 2,965 hectares under upland rice; 3,564 hectares under cassava; 126 hectares under horticulture; 3,265 hectares under peanuts and cow peas

³⁶ This represents 2,100 farmer groups (at an average of 25 members per group); 22 RSM; one rice seed company; 40 cassava nurseries; one vegetable seed company; one agro-input supplier company; eight agro-pharmacists; 154 CAHWs;

³⁷ This represents lowland rice and cassava farmers

			<p>rice seed production in preparation for expansion of seed production in FY16</p> <p>18,200 farmers are using good seeds in rice production in FY15 on 4873 hectares</p> <p>Liberia's seed requirements established through special study</p> <p>One medium/large private sector firm undertaking commercial rice seed production and marketing</p> <p>Community store outlets of rice seeds identified and capacitated in processing, storage and retail selling of rice seeds</p> <p>Group marketing and bulk procurement of rice seeds piloted among farming groups/association in the four counties</p> <p>Support implementation of the seed regulation that have been recently published in the National Gazette, including support to seed inspectors and seed inspectors training;</p> <p>100 outgrowers producing improved seed rice under contract with at least one medium/large seed company</p>	<p>community stores</p> <p>Youth and women leaders trained to manage group marketing</p> <p>Support youth seed inspectors</p> <p>Women and youth outgrowers will be prioritized under contracting</p>
		Support commercial production and marketing of cassava cuttings	<p>Screening completed and the 44,000 improved cuttings imported in FY14 are released by CARI and distributed to 40 commercial nurseries for multiplication</p> <p>40 commercial cassava nurseries registered as businesses, trained in business with business plans on production and sales expansion projections</p> <p>40 commercial cassava nurseries sell cassava cuttings, valued at US\$250,000, to 12,960 farmers</p>	<p>Women and youth are employed in management of commercial nurseries</p> <p>Women and youth cassava farmers have access to improved planting material</p>

			<p>25,000 cassava farmers are planting disease-free cassava cuttings of improved/ appropriate cassava varieties</p> <p>Cuttings requirement for Liberia established through special study and a plan for expansion of commercial nurseries for inclusion in FY16 Work Plan</p>	
		Support commercial production and marketing of vegetable (including legumes) seeds and seedlings	<p>3,265 hectares supported for seed production of peanuts and cowpeas</p> <p>Private sector firm selected and assisted to develop a locally branded seed package to cater for local requirements of vegetable farmers</p> <p>Private sector (aggregator or input supplier) supported to embed supply of seeds as part of contract-growing scheme</p>	<p>Promote women and youth agribusiness integrating seed and processing of peanut and cowpea products</p> <p>Women-owned firms will receive additional support</p>
Constraints	Solutions	Key Activities	Outcomes	Women & Youth
Lack of awareness of benefits of the use of quality inputs	Create awareness of the benefits of the use of good seeds, fertilizers and IPM	Demonstration, extension delivery through training and radio programming	<p>CBA of input use based on program experience over the last three years prepared</p> <p>Sale of inputs promoted through radio advertising and extension delivery support</p> <p>Use of good seeds, fertilizers and IPM demonstrated in new FED clusters/sites</p>	N/A
Lack of financial capacity of individual farmers to access inputs	Introduce alternative models to improve access to inputs	Support determination and adoption of optimal packaging sizes	Agro-input suppliers supported in determining and piloting optimal packaging sizes of inputs	N/A
		Promote embedded financing	At least one private sector player supported to embed fertilizer and pesticides as part of an integrated agribusiness operation (inputs to sale)	Prioritize pilot with a woman-owned business like ROSNA
		Use voucher program to share in the risk and jump-start farming business	Goat voucher program with reduced subsidy carried out with eight agro-pharmacists and 154 CAHWs	make sure the CAHWs are women
			At least 360 vegetable farmers and 5,000 rice farmers adopting fertilizer use through voucher	Include women and youth in clusters and farming groups

			redemption	
		Support bulk procurement and group marketing	At least two farming groups pilot bulk-procurement and retail-selling to their members	Prioritize all-youth and all-women groups in the pilot
			Pilot sale of fertilizers/pesticides through rice business hubs and/or alternative community outlets	
High cost of fertilizer	Optimal fertilizer use	Support soil testing and optimal fertilizer application	Fertilization requirements of each crop determined by recommendations emerging from results of the soil sample tests	N/A
			Embedded financing involving fertilizers adopt recommended rates based on soil analysis	N/A
			Marketing and sales model based on optimal fertilizer rates using ICT is piloted	Prioritize piloting with all-women and all-youth organizations
	Promote alternative cost-effective fertilizer mix and efficient fertilization	Promote UDP, MoP and TSP use in rice production	At least 500 hectares and 5,000 rice farmers applying UDP in combination with MoP and TSP	N/A
		Demonstrate on-farm composting for vegetables	360 vegetable farmers trained in composting and 20 demonstration sites established	N/A
		Demonstrate Fertilizer Deep Placement (FDP) in vegetable farming	FDP is piloted in at least 10 USAID FED vegetable clusters	N/A
		UDP+SRI research	Comparative analysis (including CBA) between UDP and UDP+SRI completed	N/A

2. Work Breakdown Structure for Subtask 1.2

Deliverable 1.2.1 Improving access to good seeds and other planting materials

Activity 1.2.1.1 Support the establishment of commercial production and marketing of rice seed

Task 1.2.1.1.1 Technical Assistance and Business Development Services to 22 RSM site operators

Task 1.2.1.1.2 Continued support for the 17 rice seed inspectors and training of additional inspectors as needed

Task 1.2.1.1.3 Identification, engagement and support of private sector firm for commercial production and marketing of rice seed

Task 1.2.1.1.4 Support rice seed outlets at the community level (proper processing, storage, packaging and selling)

Task 1.2.1.1.5 Pilot group marketing of rice seeds by farming groups

Task 1.2.1.1.6 Identification and development of additional sites for rice seed production and training of new seed producers

Task 1.2.1.1.7 Collaboration with WAAPP and WASP in developing the rice seed industry in Liberia

Activity 1.2.1.2 Support to commercial production and marketing of cassava cuttings

Task 1.2.1.2.1 New improved varieties released by CARI distributed to and multiplied by the 40 nurseries

Task 1.2.1.2.2 Technical assistance and BDS (advertising, business registration, record-keeping, etc.) to 40 cassava nurseries

Activity 1.2.1.3 Support to commercial production and marketing of vegetable (including legumes) seeds and seedlings

Task 1.2.1.3.1 Support to private sector firm for development of local brand of vegetable seeds

Task 1.2.1.3.2 Disease-resistant varieties introduced and demonstrated

Task 1.2.1.3.3 Private sector supported to embed vegetable seed supply as part of contract-growing scheme

Deliverable 1.2.2 Improving access to fertilizer and other agricultural inputs

Activity 1.2.2.1 Awareness campaign on benefits of agro-inputs through radio programming and other platforms

Task 1.2.2.1.1 Cost-benefit analysis on use of fertilizers, good seeds and chemical control (including herbicides) determined

Task 1.2.2.1.2 Compilation of success stories, interviews of successful farmers and development of radio programs

Task 1.2.2.1.3 Development of videos capturing the process, good crop stand, bountiful harvest and excellent quality

Activity 1.2.2.2 Support to determine and adopt optimal packaging sizes

Task 1.2.2.2.1 Hire STTA to determine optimal packaging (with break-even analysis and break even pricing)

Task 1.2.2.2.2 Engage and support an input supplier for sale of inputs using optimal packaging sizes

Activity 1.2.2.3 Embedded financing for inputs

Task 1.2.2.3.1 Engage and support a private firm to pilot embedded financing for inputs in rice value chain

Task 1.2.2.3.2 Engage and support a private firm to pilot embedded financing for inputs in vegetables value chain

Activity 1.2.2.4 Voucher program for fertilizer and veterinary supplies

Task 1.2.2.4.1 Develop and implement voucher program for veterinary supplies with 50-percent subsidy

Task 1.2.2.4.2 Develop and implement voucher program for vegetables incorporating lessons learned from FY14

Activity 1.2.2.5 Support bulk procurement and group marketing

Task 1.2.2.5.1 Identify and engage at least one vegetable cluster in each county to carry out bulk procurement and marketing of inputs to their members

Task 1.2.2.5.2 Identify and engage at least two rice farming groups in each county to carry out bulk procurement and marketing of inputs to their members

Deliverable 1.2.3 Efficient inorganic fertilizer use and organic fertilizer mix introduced and promoted

Activity 1.2.3.1 Promote UDP, MoP and TSP use in rice based on soil analysis

Task 1.2.3.1.1 Zoning of FED rice sites carried out based on soil analysis and fertilizer recommendations developed for each zone

Task 1.2.3.1.2 Comparative study of use of appropriate fertilizer rates using UDP, MoP and TSP vs. generic fertilizer rate recommendation

Activity 1.2.3.2 Demonstrate on-farm composting for vegetable

Task 1.2.3.2.1 Support training and demonstration of composting on at least one vegetable cluster farm

Activity 1.2.3.3 Demonstrate Fertilizer Deep Placement (FDP) in vegetable farming

Task 1.2.3.3.1 Pilot Fertilizer Deep Placement using fertilizer rates based on soil analysis

Activity 1.2.3.4 UDP+SRI research

Task 1.2.3.4.1 Complete UDP+SRI research and carry out comparative analysis of cost and benefits vs. UDP only and SRI only

Activity 1.2.3.5 Adoption of UDP to old sites

Task 1.2.3.5.1 Promote UDP adoption on FY14 rice sites through 50 percent voucher subsidy

Activity 1.2.3.6 Piloting use of ICT in soil testing and analysis for rice

Task 1.2.3.6.1 Recruitment of Project Manager

Task 1.2.3.6.2 Training of farmers on soil sampling

Task 1.2.3.6.3 Dissemination of soil test results

Task 1.2.3.6.4 Packaging of samples and transportation

Task 1.2.3.6.5 Testing of samples

Activity 1.2.3.7 Support marketing of legumes (cowpeas and peanuts)

Task 1.2.3.7.1 Collection of baselines on projected volumes available for sale

Task 1.2.3.7.2 Identification of buyers for cowpeas and peanuts

Task 1.2.3.7.3 Support bulk-selling of legumes for the market

3. Mainstreaming Gender, Youth, ICT and Environmental Compliance

All interventions conducted by USAID FED will deliberately include gender (men and women) and youth in input supply provision, whether as providers or recipients. Strategies developed will ensure that input supply activities utilize appropriate ICT technologies and take into consideration environmental compliance.

4. Geographical Plans

It is anticipated that input supply activities will impact at least 145,000 beneficiaries through the networks and platforms created during the life of the project. This is exclusive of additional individuals who will be reached via radio programs within the four core counties of Bong, Nimba, Lofa and Grand Bassa, as well as the two secondary counties of Montserrado and Margibi.

5. Risk Analysis and Mitigation Plan

Deliverables	Timeline	Responsible Unit/Staff	Risk	Mitigation Strategy
Commercial production and marketing of rice seeds				
22 rice seed multiplication sites sell 400 MT of rice seeds	May to July 2015	Input Supply Team (IST)	Medium: Farmers will continue to opt to use their own seeds	Awareness campaign among farmers on benefits of using good seeds and optimal pricing of seeds
17 rice seed inspectors actively providing QA services to rice seed producers	May to September 2015	Input Supply Team (IST)	Low: Poor cooperation of rice seed producers	FED will absorb the cost of the inspection while the seed certification program is being set-up
Private sector firm engaged and supported for commercial production and marketing of rice seeds	April to September 2015	Input Supply Team (IST)	Medium to high: Private sector firm may not have capital to invest	Link firm to financial services for capital and reassess the deliverable in mid FY15
Support to rice seed outlets at the community level (proper processing, storage, packaging and selling)	April to August 2015	County Teams	Medium to high: Private sector firm may not have capital to invest	Link firm to financial services for capital and adjust the share of FED to accommodate for what the private sector or farm groups can realistically contribute
Marketing of rice seeds by farming groups piloted	May to July 2015	Counties	Low to medium: Demand for rice seed needs to be established	Survey optimal pricing for rice seed and create awareness campaign through radio and training on benefits of using good seeds

Additional sites for rice seed production and new seed producers identified	August to September 2015	Counties	Low to medium: Demand for rice seed needs to be established	Undertake survey to determine demand for rice seed
Signed MoU with WAAPP and WASP to develop the rice seed industry in Liberia	March 2015	Input Supply Team (IST) & C2	Low: Responsible staff at WAAPP and WAFP might not be present in-country.	March 2015 timeline is intended to provide ample time for containment of the Ebola virus
Support to commercial production and marketing of cassava cuttings				
Screening of new improved varieties completed, released by CARI, distributed to and multiplied by the 40 nurseries	February to September 2015	Input Supply Team (IST)	Low to medium: Management and inspections of control sites may be interfered with due to the Ebola outbreak	Maintain skeleton staff to manage control sites during Ebola containment
40 cassava nurseries registered as businesses and business plans developed	May 2015	C2 and CVC Team	Low: Cassava nurseries are already operational, but need support to operate as businesses	Through C2, engage LNGOs to provide business development support services including registration of these nurseries as businesses
Support to commercial production and marketing of vegetable (including legumes) seeds and seedlings				
Private firm engaged to develop local brand of vegetable seeds	June 2015	IST and HVC Team	Medium to high: Private sector firm may not have capital to invest	Link firm to financial services for capital
Disease-resistant varieties introduced and demonstrated to vegetable clusters	January 2015	HVC Team	Medium: Delays due to potential absence of STTA in the first two quarters due to issues relating to Ebola outbreak	Assess situation in January and adjust timeline as necessary
Pilot contract-growing scheme embedding seed supply	April 2015	HVC Team and C2	Low: Seed growers concerned about markets	Link farmers to seed markets, other farming clusters and donor projects providing free seeds
Awareness campaign on benefits of agro-inputs through radio programming and other platforms				
Cost-benefit analyses on use of fertilizers, good seeds and chemical control (including herbicides)	April 2015	IST	Medium: Competing priorities and delay	STTA in Q1 or Q2 to provide remote support

determined			in arrival of the LTTA Input Supply Manager	
Success stories written about successful farmers and radio programs aired	June to September 2015	IST, Doe and Comms	Medium: Competing priorities and delay in the recruitment of Communications Specialist LTTA	Anticipate completion in the last quarter of FY15
Videos produced capturing the processes, good crop stand, bountiful harvest and excellent quality of produce	August to September 2015	Comms	Medium: Competing priorities and skills availability	Hire STTA to assist with activity
Support to determination and adoption of optimal packaging sizes				
Optimal packaging (with break-even analysis and break-even pricing) determined through study by STTA	March to April 2015	IST	Low to medium: STTA delayed due to Ebola situation	Start hiring in December, but set a reasonable start date of March 2015
MoU with private firm to pilot optimal packaging sizes	May 2015	IST	Medium to high: Private sector firm may not have capital to invest	Link firm to financial services for capital
Embedded financing for inputs				
Embedded financing for inputs in rice value chain piloted with private sector	April to July 2015	IST & C2	Medium to high: Private sector firm may not have capital to invest	Link firm to financial services for capital
Embedded financing for inputs in vegetable production piloted with private sector	March to September 2015	IST & C2	Medium to high: Private sector firm may not have capital to invest	Link firm to financial services for capital
Voucher program for fertilizer and veterinary supplies				
Voucher program for veterinary supplies with 75 percent subsidy implemented	February to July 2015	IST & GVC Team	Medium to high: Farmers may not have funds to pay for inputs	Link farmers to financial services for capital
Voucher program for vegetables incorporating lessons learned from FY15 developed and implemented	January to September 2015	IST & HVC Team	Medium to high: Farmers may not have funds to pay for inputs	Link farmers to financial services for capital
Support to bulk procurement and group marketing				
Bulk procurement and marketing of inputs to their members piloted with vegetable clusters in all four counties	April to September 2015	IST, RVC Team & Counties	Medium to high: Farmers may not have funds to pay for inputs	Link farmers to financial services for capital
Bulk procurement and marketing of inputs to their members by at least two rice farming groups in each county	April 2015 to August 2016	IST, HVC Team & Counties	Medium to high: Farmers may not have funds to pay for inputs	Link farmers to financial services for capital
Promote UDP, MoP and TSP use in rice based on soil analysis				

Program rice sites zoned based on soil analyses and fertilizer recommendations developed for each zone	April 2015	IST, RVC Team & Counties	Medium: Expertise mobilization might be delayed by Ebola outbreak	Engage the STTA for remote work
Comparative study of use of appropriate fertilizer rates using UDP, MoP and TSP versus generic fertilizer rate recommendation	May to September 2015	IST	Low: Study will be conducted based on current trials	FED to supply the data. STTA will just do the analysis; can be done remotely.
Demonstrate on-farm composting for vegetables				
Composting is demonstrated and farmers trained in composting in vegetable clusters	March to Sept 2015	IST & HVC Team	Low: Identified clusters can be targeted to demonstrate composting	Hire a local STTA to carry out training
Demonstrate Fertilizer Deep Placement (FDP) in vegetable farming				
Fertilizer Deep Placement using fertilizer rates based on soil analyses piloted in at least 10 FY14 vegetable clusters	May to August 2015	IST & HVC Team	Medium: Private sector manufacturer may not be interested	Engage and arrange with the manufacturer as early as Q1 FY15
UDP+SRI research				
UDP+SRI research completed and comparative analysis of cost benefits versus UDP only and SRI only is completed	April 2015	IST, RVC Team & Counties	Low: Potential data quality problems	USAID FED senior agriculture expert manages the study

Subtask 1.3: Agricultural Extension Support

A. The Challenge

In August of 2012, Liberia's Ministry of Agriculture (MoA) in collaboration with USAID FED and other development partners, identified major bottlenecks to extension delivery in the country. To improve the extension delivery system, several possible strategies were outlined in an extension development policy document titled "Strengthening Agricultural and Advisory Services (SEAS)".

Currently, each of Liberia's 15 counties is staffed with one county agricultural coordinator (CAC). Out of 136 districts, only 51 are staffed with District Agricultural Officers (DAOs). The extremely high farmer-to-DAO ratio of 58,824:1³⁸ unfortunately guarantees that the bulk of farmers will receive no advisory services. This is aggravated by the absence of pluralistic extension services that involve the public/private sector/civil society and that are demand-driven and participatory. Without a practical strategy and the absence of standardized extension materials to refer to, CACs and their DAOs will continue to depend entirely on the MoA in Monrovia for direction on technical issues related to agriculture.

³⁸ Assuming 75 percent of Liberia's estimated four million people are farmers implies that 51 DAOs are responsible for three million individual farmers.

During the 2012 workshop to validate the National Policy for Agricultural Extension and Advisory Services in Liberia, the MoA stressed the importance of “developing a pluralistic, decentralized, demand-driven, and market-oriented system that involved greater participation of farmers in decision-making in agricultural development initiatives”. In instances where advisory services are provided by the civil society, facilitation of these services remains donor-dependent and thus unsustainable in the long-term. Private sector actors, i.e., input suppliers and agro-processors, offer potential opportunities for provision of extension advisory as embedded services. However, there are no incentives provided to motivate them to embed extension services as part of their business activities.

The availability and access to relevant and standardized extension material and information remains lacking. For example, a national agriculture extension curriculum is yet to be developed and applied in informal and formal institutions of learning. Further, these institutions have not prioritized agriculture courses as part of their main subjects. There has been very little public investment in vocational agriculture institutions. As a result, there are few qualified extension service providers in Liberia.

B. LOP Objectives and Status

I. LOP Objectives and Targets

USAID FED’s objective during FY15 and FY16 is to ensure that the MoA develops and implements a de-concentration and decentralization strategy toward effective provision of agriculture extension services. Support will also be provided toward revising existing extension material and designing a national curriculum for extension. Strengthening of the functions of the Agriculture Development Coordination Committees (ADCCs) will also be supported to ensure a pluralistic and cost-effective approach to extension provision.

2. Milestones in FY14

2.1 Extension ToTs

In FY14, USAID FED’s Extension Unit conducted Training of Trainer (ToTs) workshops for 145 (130 men, 15 women) extension officers from the MoA, local NGOs and USAID FED on technical extension provision techniques in rice, horticulture and cassava production. In addition, a total of 59 (51 men, 8 women) upland rice lead farmers and 151 (140 men, 11 women) lowland rice lead farmers were trained on extension service provision techniques.

2.2 Using Information Communication Technology in Agriculture

USAID FED signed MOUs with Radio LACSA of Grand Bassa, Radio Bongese of Bong, Radio Kergheamahn of Nimba and Radio Tamba Taikor of Lofa to produce and air 30-minute agriculture radio shows on a weekly basis. These radio stations were equipped with laptops, digital voice recorders, rain gear and internet modems to enhance their work. The journalists working with the radio stations were trained on agriculture radio program development and also provided with Adobe 3.0 software to enhance the production of their various radio programs. A total of 30 radio programs on agriculture have been aired across the four counties in FY14.

USAID FED also entered into an agreement with UNMIL Radio to jointly produce a weekly agricultural radio program titled “On the Farm” which is aired every Monday at 5:00 a.m. “On the Farm” features USAID FED’s agricultural interventions implemented across its operational counties. Two “On the Farm” programs were produced and aired in FY14.

The extension team developed and tested four nutrition jingles translated into nine local languages. The messages in Bassa, Kpelle and Liberian English have already been aired in Bong and Grand Bassa counties. These nutrition jingles promote diet diversification and the importance of animal-based protein nutrition for pregnant women and children. Additionally, jingles promoting the National Diploma in Agriculture and importance of goat-sheltering were also produced and aired by the county radio stations.

Fifteen extension aides from LNGOs working with USAID FED were trained on how to use hand-held GPS devices to measure and calculate the size of the fields under cassava cultivation in Bong, Nimba and Grand Bassa counties. The extension aides were also trained on how to save and retrieve geo-referenced data for accurate cluster mapping.

USAID FED produced a rice value chain video that was aired at the 2014 Micro, Small and Medium Enterprises (MSME) Conference and at the conference’s awards dinner at the Monrovia City Hall in May 2014. The video focuses on the challenges surrounding the competitiveness and profitability of Liberia’s rice value chain.

2.3 Value chain extension material

USAID FED developed extension training material for the rice, horticulture, cassava and goat value chains. The training tools are used by USAID FED, MoA and LNGO extension staff in day-to-day activities in the field. The following extension materials were developed in FY14:

Value Chain	Extension Material
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- | | |
|------|--|
| Rice | <ul style="list-style-type: none">• Rice Seed Production Manual• Soil Test Manual• Soil Sampling Manual• Rice Insect and Disease Manual for Liberia• Rice Manual for Liberia |
|------|--|

- | | |
|--------------|---|
| Horticulture | <ul style="list-style-type: none"> • GAP and IPM manual for aubergine, African eggplant and chili pepper • GAP and IPM manuals for cucumber, watermelon, lettuce, okra and cabbage • Safe and Effective Use of Plant Protection Products • Harvesting and Post-Harvest Handling of Vegetables for Food Safety • Common Pests and Diseases of Aubergine, African Eggplant and Chilies • Common Pests and Diseases of Watermelon and Cucumber • General IPM for Vegetables • GAP in Protected Cultivation |
| Cassava | <ul style="list-style-type: none"> • Cassava Mosaic Disease Factsheet • Cassava Bacteria Blight Disease Factsheet • Cassava Brown Streak Disease Factsheet • Cassava Anthracnose Disease • Starting a Cassava Farm in Liberia • Rapid Multiplication of Cassava |
| Goats | <ul style="list-style-type: none"> • Feeding Goats to be Happy and Healthy • Shelters for Goats to be Happy and Healthy • Managing Birthing Process of Mothers and Kids • Health Care for Happy and Healthy Goats • Community Animal Health Care Workers (CAHWs) • Marketing Happy and Healthy Goats |

2.4 Curricula Revision

In FY14, USAID FED created a course outline for the National Diploma in Agriculture (NDA) course on Principles of Extension. Two instructor reference materials were also procured for Component Three to be used in designing lesson plans for the NDA's course on extension delivery. The NDA course on extension delivery will be completed in FY15, hence the reference materials. The manuals "Communication for Rural Innovation: Rethinking Agricultural Education" (Leeuwis and Van den Ban, 2004) and "Agricultural Extension" (Wiley-Blackwell) will be useful during the 2015 summer workshop sections on lesson planning.

3. Major Challenges in Programmatic Implementation

The strategies outlined in the National Policy for Agricultural Extension and Advisory Services in Liberia and the extension development policy document titled "Strengthening Agricultural and Advisory Services (SEAS)" of 2012 are yet to be implemented by the MoA. The inclusion of a pluralistic approach to extension service provision that is demand-driven continues to remain a challenge. This is due to the fact that adequate public sector investments have not been committed toward strengthening extension services in the country.

In some cases, DAOs could not participate in extension training sessions due to lack of financial support to cover transport, meals and lodging. In FY14, fewer than five DAOs based in USAID FED's operational counties participated in value chain extension training session. As a matter of policy, USAID FED does not pay for costs associated with transportation, meals and lodging for MoA staff.

The provision of extension services continues to remain subsidized by donor funding through development partners. Such services are not embedded as part of the activities of the few existing agro-input supply companies. Further, fee-based extension services do not exist since rural farmers are yet to perceive the need to include such services as part of their production costs.

The development of extension material in a format that effectively communicates to beneficiaries and other end-users requires the engagement of a graphic illustrator. The development of additional appropriate and easy-to-use material will be undertaken in Q1 and Q2 FY15.

4. Lessons Learned in FY14

For effective de-concentration and decentralization to occur and to encourage pluralistic extension delivery, it is important for the MoA, USAID FED and other stakeholders to agree on a national curriculum for the four target value chains. The national curriculum will outline relevant courses that are important for farmer training. Newly developed extension material will follow the national curriculum, serve to standardize extension delivery and enable the decentralized delivery of services. This will allow the private sector to engage in extension, leading to the creation of a pluralistic approach.

Without investments from the public and private sectors, it is difficult to expect sustainability of extension services beyond the life of the project. It will be crucial to involve the private sector in extension services through embedding such services. For example, farmers could be encouraged to source extension services from agro-input suppliers, the community rice business hubs, commercial cassava nurseries, lead farmers and youth entrepreneurs for a small fee. Livestock marketing hubs can be maximized for extension delivery by the community animal health workers. The USAID FED-supported Enterprise Service Centers will also provide extension services for a fee.

The need to develop more practical approaches to coordinating agricultural extension support remains important to ensure that an increased number of actors participate in the provision of demand-driven services. For example, as USAID FED partners with more private sector firms and local NGOs within the value chains, extension services could be embedded as part of support services provided to farmers. The MoA requires support in developing a practical strategy based on relevant recommendations of the SEAS that can be implemented in a cost-effective manner. This includes supporting the existing Agriculture Development Coordination Committees (ADCCs) to coordinate the provision of extension services more effectively at the county level.

A greater number of private sector and LNGO participants should be included in future training sessions to make up for any gaps in service delivery that result from this type of missed opportunity. In the meantime, a concerted effort is needed to address funding requirements for DAOs to participate in extension trainings as well as to enable them provide technical extension services in the field.

The services of a local graphic design firm could provide graphic design and illustration services and contribute to the development of user-friendly extension material. This will ensure that appropriate content is developed on time and distribution to target groups achieved.

C. Approach to Achieve LOP Target/Objective and FY15 Objectives

I. Strategy for FY15 and FY16

In FY15 and FY16, USAID FED will provide assistance to the MoA to develop decentralization strategies that are not only cost-effective but also practical to implement at the county level. These strategies will focus on enhancing access to agricultural information through the implementation of a standardized, practical agricultural curriculum for monthly training of extension workers from both the public and private sector. These will also focus on the distribution of validated extension materials on improved practices and technologies.

Implementing a standardized agricultural curriculum will help strengthen the capacity of MoA extension staff and the ADCCs at the county level. USAID FED will also support the MoA in revising any existing agriculture extension material currently being used by key stakeholders within USAID FED-supported value chains. It will also support efforts to develop demonstration facilities in the counties for continuous training of public, private sector and civil society organizations.

2. FY15 Anticipated Achievements

- MoA, USAID FED-developed de-concentration and decentralization strategies for agriculture extension roll out across the counties, including strengthening the coordination role of ADCCs
- National agricultural extension curricula, especially those covering the four value chains, validated by the MoA and other key stakeholders in the agriculture sector
- Training of MoA extension staff, private sector and civil society on a monthly basis through demonstration sites at the county level
- Relevant extension material and information covering the rice, cassava, goats and horticulture value chains made available and accessible to beneficiaries, LINGOs and the private sector in all six program counties
- At least three private sector firms partnering with USAID FED to pilot embedding of extension services in the rice, cassava, goats and horticulture value chains
- At least four local NGOs partnering with USAID FED embedding extension services in the rice, cassava, goats and horticulture value chains
- Enterprise Service Centers supported to provide extension service via training of trainers and distribution of extension materials

3. FY15 Indicators and Targets

Deliverables	FY15						
	Cassava	Rice	Vegetable	Goats	Total	Women (30 percent)	Youth (15 percent)
<p>Contract deliverable: Producers/SMEs, especially women, have greater access to profitable agricultural information and improved practices and technologies. (FTF Indicator: Number of farmers and others who have applied new technologies and management practices as a result of USG assistance)</p>	10,500	31,050	7,500	5,000	54,050	16,215	8,107.5
<p>Contract deliverable: MoA extension agents enabled to perform their jobs resulting in improved extension services to farmers/SMEs (FTF Indicator: Number of hectares under new technologies or management practices as a result of USG assistance)</p>	2,625	8,230	251	6,000 nannies	11,106	3,331.8	1,665.9
<p>Contract deliverable: 100 percent coverage of county-based agricultural extension staff in improved extension techniques in the four core counties. (FTF Indicator: Number of individuals who have received USG-supported short-term agricultural sector productivity or food security training)</p>	21,000	31,050	0	74	52,124	15,637.2	7,818.6
<p>Contract deliverable: At minimum, 100 farmer organizations with technical and managerial skills to become financially self-reliant. (FTF Indicator: Number of private enterprises, producer organizations,</p>	750	100	58	275	1,183	324.9	162.45

women's groups, trade and business associations and community-based organizations that applied new technology or management practices as a result of USG assistance).							
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D. FY15 Work Plan

I. Results Framework for Subtask I.3

Constraint	Proposed Solutions	Key Activities	Outcomes FY15	Women & Youth involvement
Limited availability of extension material and demonstrations	Extension materials developed and made available	Package and print extension material Produce informative agricultural radio programs Establish demonstration sites with MoA and lead farmers in counties	Beneficiaries have access to extension information Agricultural radio programs aired at county level MOA/private sector/civil society receiving continuous, practical training on demonstration sites	Extension material will deliberately target women and youth in content
Extension services provided through Civic Society Organization is donor-dependent and not sustainable	Train private sector actors and businesses to provide extension advice as embedded services	Develop and validate agricultural curriculum together with extension training materials Establish field demonstration sites Deliver monthly training in relevant production, post-harvest and business skills	Beneficiaries have access to extension support/advice through private sector actors/businesses (e.g. rice and cassava business centers and goat shelters)	The content of extension material and curriculum will deliberately target women and youth
Extension curricula are limited	Revise agriculture extension curricula and make available to stakeholders	Revise and package extension curricula Revise the curricula already tested in the field and validate curricula by stakeholders	Vocational training institutions, universities and other stakeholders have access to a practical and easy-to-use curricula	Extension curricula will deliberately target women and youth in content
Relevant government	MoA supported to develop and roll out	Evaluate existing strategies under	MoA and the ADCCs implementing	Developed strategies will deliberately

agencies have no practical strategies in place for extension development	de-concentration and decentralization strategies	SEAS that are still relevant and practical Develop new strategies in collaboration with MoA and validate strategies through key stakeholders	practical strategies that can support effective coordination of extension at county levels	target women and youth in content
Technical capacities of extension service providers is limited	MoA/private sector/civil society receive training on extension service provision	Demonstration sites established with MoA and lead farmers at county level MoA/private sector/civil society receive training on extension service provision Monitor extension service provided by MoA/private sector/civil society	Extension staff have enhanced skills in service provision Extension services effectively reach a larger number of beneficiaries through embedded services	Women and youth will be included in extension training programs
Existing educational institutions have not prioritized agriculture courses	Courses integrated to promote agriculture	Integrate the NDA under Component Three and extension curricula in vocational training courses and curricula and test and adopt the content (Component Three)	Formal and informal institutions have extension integrated in NDA course work	NDA and extension curricula will deliberately target women and youth in content
Limited private sector participation	Support private sector firms participating in agriculture to embed extension services in their activities	Train private sector firms in extension service provision	At least three private sector firms are embedding extension as part of their activities with farming groups	Extension services will deliberately target women and youth participating in agriculture

2. Work Breakdown Structure for Subtask 1.3

1.3.1 Development of de-concentration and decentralization strategies with MoA

- 1.3.1.1 Working group established in collaboration with MoA, ADCC representatives from the counties and national level to evaluate existing strategies. The working group will develop new strategies that address the need to de-concentrate and decentralize extension for implementation in FY15
- 1.3.1.2 Workshop facilitated in collaboration with MOA, ADCCs and agriculture stakeholders toward validation of newly drafted de-concentration and decentralization strategy
- 1.3.1.3 MoA agriculture extension division supported to develop piloting strategies and work plans for FY15

1.3.1.4 Development of standardized agricultural extension curricula

- I.3.1.5 Baseline information on existing material collected
- I.3.1.6 Extension learning materials from various stakeholders collected and evaluated for relevance
- I.3.1.7 Working group established in collaboration with MoA, formal and informal educational institutions to standardize extension curricula material and courses (Component Three)
- I.3.1.8 Developed curricula with the formal and informal education institutions to test the effectiveness of the content (Component Three)
- I.3.1.9 Final curricula developed and packaged for adoption based on feedback emerging from pilot tests with formal and informal educational institutions (Component Three)

I.3.3 Development of extension material and information access points

- I.3.3.1 Extension material and packages covering technical aspects of production techniques, production planning, integrated pest and disease management, variety selection and post-harvest handling developed for rice, cassava, goats and horticulture value chains.
- I.3.3.2 Extension staff from MoA, private sector firms, civil society and USAID FED trained on the use of developed extension packages.
- I.3.3.3 Demonstration sites for training and technology transfer established in collaboration with MoA and ADCCs in Bong, Nimba, Lofa and Grand Bassa counties (one in each county).
- I.3.3.4 Developed extension packages printed and disseminated through existing networks of extension staff and lead farmers.
- I.3.3.5 Agricultural radio program content for monthly radio shows produced in collaboration with communications unit and five community radio stations.
- I.3.3.6 Agricultural radio shows aired once weekly by five radio stations in Bong, Nimba, Lofa, Grand Bassa and Montserrado counties.
- I.3.3.7 Information on listenership coverage collected from each radio station on a monthly basis to gauge number of people receiving extension information through radio.

I.3.4 Participation of private sector in extension service provision

- I.3.4.1 Extension material packages covering technical aspects of production techniques, production planning, integrated pest and disease management, variety selection and post-harvest handling developed for rice, cassava, goats and horticulture value chains
- I.3.4.2 Private sector firms trained on the use of developed extension packages and developing integrated strategies for embedding services
- I.3.4.3 Extension services by private firms to farming groups monitored for effectiveness

3. Mainstreaming Gender, Youth, ICT and Environmental Compliance

Interventions conducted by USAID FED as well as any ICT and environmental compliance activities will deliberately place focus on the inclusion of gender (men and women) and youth in agricultural extension support, whether as providers or recipients. Strategies developed will ensure that extension material as well as content development and dissemination of information utilize appropriate ICT technologies and take into consideration environment compliance.

4. Geographical Plans

It is anticipated that agricultural extension support will directly reach at least 145,000 beneficiaries through the networks and platforms created during the life of the project. This is exclusive of additional individuals who will be reached via radio programs within the four core counties of Bong, Nimba, Lofa and Grand Bassa, as well as the two secondary counties of Montserrado and Margibi.

Deliverables	FY15						
	Total	Bong	Lofa	Grand Bassa	Nimba	Montserrado	Margibi
Contract deliverable: Producers/SMEs, especially women, have greater access to profitable agricultural information and improved practices and technologies. (FTF Indicator: Number of farmers and others who have applied new technologies and management practices as a result of USG assistance)	54,050	3,000	5,250	4,050	1,950	1,875	1,875
Contract deliverable: MoA extension agents enabled to perform their jobs resulting in improved extension services to farmers/SMEs. (FTF Indicator: Number of hectares under new technologies or management practices as a result of USG assistance)	11,106	555	1,085	818	293	63	63
Contract deliverable: 100 percent coverage of county-based agricultural extension staff in improved extension techniques in the four core counties. (FTF Indicator: Number of individuals who have received USG-supported short-term agricultural sector productivity or food security training)	52,124	4,200	8,400	6,300	2,100	0	0
Number of MSMEs, including farmers, receiving business development services from USG-assisted sources	27,000	4,325	8,550	6,400	2,225	250	250
Contract deliverable: Farmer organizations with technical and managerial skills to become financially self-reliant. (FTF Indicator: Number of private enterprises, producer organizations, women's groups, trade and business associations and community-based organizations (CBOs) that applied	1,083	157	309	232	82	14	14

new technology or management practices as a result of USG assistance).							
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5. Risk Analysis and Mitigation Plan

Deliverables	Target Completion	Responsible Staff	Risk	Mitigation Strategy
Development of de-concentration and decentralization strategies with MoA and ADCCs	December 2014	Extension Unit, MoA, ADCC members	High: MoA and ADCC may not be available to work on strategies due to the Ebola outbreak MoA may not have finances to implement developed strategies	Initial assessment of existing strategies can begin with a small group of experts USAID FED can identify activities it can finance within its zones of influences
Revision of agricultural extension curricula	November 2014	Extension Unit, Component 3, MoA	Medium: MoA and educational Institutions may not be available to work on revisions due to the current Ebola outbreak	Initial revisions of extension curricula can begin with a small group of experts
Development of extension materials and information access points through production and broadcast of agricultural radio programs	November 2014 (Extension Materials)	Extension Unit, MoA, ADCC members	High: MoA and ADCC members may not be available to develop demonstration sites or planned training programs in 2014 due to the current Ebola outbreak	Development of extension material and packages can continue under USAID FED
	Monthly (Radio Programs)	Extension Unit, Communications Unit, radio Stations	Medium to high: Collection of content material in the field may be impossible in 2014 due to the Ebola outbreak in affected regions where information needs to be gathered	Collection of radio content can be prioritized to target Bong, Nimba and Grand Bassa Counties in FY15
Participation of MoA DAOs in monthly extension training	Monthly	Extension Unit, MoA, ADCC members	Medium: DAOs may not be able to participate in monthly field training sections due to lack of funding for transportation and	Training for extension officers, LNGOs, private sector and civil society will continue while this issue is resolved

			per diem for meals	between the MoA and USAID FED
Participation of private sector in extension service provision	Monthly	Value chains, Extension Unit	<p>Medium to high: Provision of extension services to beneficiaries in zones highly affected by Ebola may not be possible during FY14</p> <p>The private sector may not find it attractive to invest in extension services if there is no fee-based demand</p>	Planning with private firms signing MOUs will deliberately integrate embedded extension service provision as one of the deliverables

Subtask 1.4: Youth in Agribusiness and Peri-Urban Agriculture

A. The Challenge

The Liberian civil war, which ended in 2003, impeded economic growth and trade, destroyed educational and health systems, and led to the displacement of thousands of people. This breakdown of social and economic infrastructure created a “lost generation” of youth with limited education and few technical, employable skills. Seventy-five percent of the Liberian population is under the age of 35, and the median age is 18 years³⁹.

More than 56 percent of female and 39 percent of male youth have reportedly never attended school⁴⁰. While literacy rates are over 50 percent for both males and females, Liberia’s educational system is remarkably weak⁴¹. Young people often move through the school system lacking basic literacy and numeracy skills. This situation has thwarted the youth’s transition to the labor market. The official (formal wage sector) unemployment rate for youth is difficult to measure, but experts estimate that it may be as high as 90 percent.

According to a labor market assessment conducted in 2012 by the Advancing Youth Project, the informal economy in Liberia is a significant source of employment and self-employment opportunities for youth⁴². Formal employment, especially outside of major city centers, is scarce and sometimes non-existent. While Liberia has favorable conditions for agriculture, most of these activities are at subsistence level.

The labor market assessment found that youth often are not knowledgeable about the entire range of the agricultural value chain across different commodities, where income may be higher, or of potentially profitable new commodities, as well as promising ancillary value chain opportunities such as transport services. Not surprisingly, many youth shy away from agriculture or are reluctant to engage in farming⁴³. Many have abandoned rural communities and farmlands for Monrovia and other urban centers in the elusive search for quick income and better livelihoods.

The youth have little interest in agriculture as a career. Farming is not considered a glamorous profession. They prefer a quick return on labor and investment and generally do not have the patience to wait months for produce to be ready for market. There is quicker money in mining or other extractive industries. The incentives to participate in agriculture and opportunities for agricultural skills training are also very limited.

³⁹ Youth Fragility Assessment, USAID (2009) http://pdf.usaid.gov/pdf_docs/PNADQ258.pdf.

⁴⁰ Women’s Refugee Commission, “Dreams Deferred: Educational and Skills-building Needs and Opportunities for Youth in Liberia,” September 2009.

http://www.womensrefugeecommission.org/docs/liberia_youth_report_2009_final.pdf.

⁴¹ UNICEF. http://www.unicef.org/infobycountry/liberia_statistics.html.

⁴² The “informal economy” here refers to largely unregistered small enterprises, generally employing few people (e.g., under 10). The informal economy includes the agricultural sector, although formal enterprises also exist in the agricultural sector.

⁴³ USAID’s Youth Fragility Assessment (2009) also cited an FAO survey that found that only three percent of Liberian youth are interested in farming. http://pdf.usaid.gov/pdf_docs/PNADQ258.pdf

Youth have little access, if any, to land due to the existing traditional land tenure systems. Community elders control the majority of land available for farming. This control heightens the elders' power in the community and enables them to exploit youth labor. Community elders give young farmers the right to till community lands on a verbal basis, but the elders retain the power to withdraw that right at any time. The elders can revoke those rights, even if the young farmers have cleared the land, made improvements and already planted crops. This often deters youth from making any real investment in the land since they have no property rights and it can be taken away at any point.

The capacity of youth to be self-employed is also limited. Starting a business for many young Liberians appears as an insurmountable challenge. They lack the necessary experience, technical and business skills necessary to partake in meaningful business opportunities or to be employed by formal enterprises. Access to capital remains one of the biggest bottlenecks toward self-employment as youth do not have the prerequisite collateral to access financial services. This limits their abilities to access the technologies and inputs that would enable them to commercially produce agricultural commodities.

Lastly, there is little awareness and understanding of the opportunities in the agriculture sector that youth can actively engage in. The lack of information on business and market opportunities further renders them incapable of participating in value chain activities. The current Ebola crisis has further compounded the challenges the youth face to tap into the agribusiness sector. This is particularly so in highly populated peri-urban areas in counties such as Montserrado and Margibi. There will be a need to stimulate youth involvement in agriculture supply chains as part of the post-Ebola recovery process to ensure food security and income generation of thousands of youth within the affected regions.

B. FED LOP Objective and Status

I. LOP Objectives/Targets

USAID FED intends to create opportunities for the youth to participate in agriculture and agribusiness through its value chain activities. It is anticipated that youth will represent at least 45 percent of the 145,000 beneficiaries recruited and supported in the rice, cassava, horticulture and goat value chains during the life of the project. This will include continued support to school garden programs, inclusion in training opportunities, access to technologies and inputs, extension services, access to markets and financial services.

USAID FED will also engage local youth NGOs at the county level to participate in the implementation of value chain activities such as beneficiary selection, extension services provision, monitoring and evaluation. The capacities of these local youth NGOs will also be assessed and the gaps identified to ensure that they are self-sufficient and sustainable beyond the life of the project. The ability of these local organizations to operate profitably will also ensure that farmers have access to business development services that are critical for commercial production of food.

USAID FED will stimulate the participation of youth in agribusiness in the peri-urban areas of Montserrado and Margibi counties. Through Access to Finance, youth groups will be supported to access much needed capital to start enterprises in various value chain activities. This will include

promoting their participation as horticulture farmers, aggregators, extension service providers, agro-dealers, transporters and traders.

Training and business skills development will be conducted to ensure that youth are equipped with the necessary skills to profitably operate their established enterprises. It is anticipated that at least 500 youth will be supported to establish agri-businesses during the life of the project. In consideration of the fact that these two counties have been severely affected by the Ebola crisis, implementation of these activities and meeting beneficiary targets during FY15 will remain subject to a return to acceptable levels of normalcy.

2. Milestones in FY14

- Since project inception, a total of 12,897 youth from 290 schools were directly supported through USAID FED school garden programs. In FY14, a total of 4,500 youth from 120 schools underwent nine months of training on improved agriculture skills, school garden establishment and management provided by USAID FED. Of these, 128 schools were supported in collaboration with the Advancing Youth Project. These schools established vegetable and cassava crops on a total of 60 hectares as demonstration gardens.
- Most of the school gardens have directed the produce toward their school feeding programs and proceeds of sales used for buying additional inputs for production. The youth, now equipped with basic skills on improved agriculture production, have the ability to transfer these production methods to their family farms. In addition, 160 youth, who are teachers, received similar support under ZRTTI and CB Harris special vegetable projects.
- A total of 146 youth were trained on the operations and management of Village Savings and Loans Associations (VSLA). Zoedoor Women's Association, a group of 30 youth from Karnplay, Nimba County, received a loan of US\$17,647.06 from the Liberia Entrepreneurial and Asset Development (LEAD) through the help of USAID FED. These loans are provided for a duration of four-to-six months at 16 percent interest. These funds were primarily invested in cassava and rice production.
- Four local youth NGOS were recruited and trained to support extension service provision across the four core counties. They included Community Youth Network Program in Grand Bassa, Evangelical Children Rehabilitation Program in Bong, Liberia Integrated Professional Agriculture Service in Lofa and Green Coast Agriculture Program in Nimba. The youth NGOs participated in training of trainer sessions provided by USAID FED and have provided extension services, training and follow up to 10,187 upland rice farmers and 10,800 cassava farmers. Through supervision from USAID FED, these youth NGOs have been able to assist farmers to realize planting targets of 2,345.32 hectares of upland rice and 2,069.7 hectares of cassava in FY14.
- Thirty-nine youth extension aides were recruited and trained on extension service provision as part of increasing job creation and seconded to the local youth NGOs. Working under supervision of the NGOs, the 39 youth extension aides have assisted the local NGOs in achieving the above targets.

- In collaboration with Ministry of Youth and Sports (MoYS), UNICEF and Advancing Youth Program, 28 national volunteer were trained and deployed to support 128 Advancing Youth Program schools in Montserrado, Margibi, Lofa, Nimba and Grand Bassa counties. These youth volunteers were provided with the opportunity to gain experience in providing extension service by supporting 4,900 youth to establish school gardens with improved agriculture practices.

3. Major Challenges in Programmatic Implementation

- Site measurements for AYP schools to ascertain actual area under production were not conducted. This hampers the ability to project expected harvests and incomes these school gardens can generate. AYP is yet to provide a comprehensive report on school gardens supported under their supervision.
- It has been difficult to establish and realize the impact of school garden programs and special projects due to the small size of production and inconsistency in management of school gardens by the school administration. While some schools have fully taken on managing the school gardens, the sustainability of the initiative beyond USAID FED remains to be seen.
- Due to the Ebola outbreak, the government issued a directive closing down schools countrywide for an indefinite period of time. As a result, this has affected the participation of students in day-to-day management of the school garden sites. This will have significant impact on expected harvests from the affected sites as it still remains unclear how long it will take to return to normalcy and for schools to re-open

4. Lessons Learned in FY14

- In order to prevent delays in the timely delivery of inputs, each partner's roles, responsibilities and resource contributions must be clearly defined. This is a lesson learned by both USAID FED and AYP in the implementation of the Back to School Garden Program, in which the MoU did not clearly define who would pay for and deliver inputs.
- There is a need to address the future sustainability of the school garden programs. For example, it may be important to assess whether students are applying the skills developed on their family farms, and if proceeds realized from these school gardens can actually sustain activities beyond USAID FED support. Implementation of the Back to School Garden Program should be led by AYP, and USAID FED plays a secondary role providing technical oversight. The program should also include 4H clubs and back-to-school garden contests. The school gardens need to be monitored by AYP on a regular basis to assess productivity and sales. However, with most schools diverting production towards meeting their school feeding programs, the program has positive implications on food security and nutrition.
- Partnership agreements with other development partners and government agencies need to be more concise to ensure that each partner meets their contractual obligations in terms of support provided to youth activities. For example, the levels of financial contributions need to be clearly defined at the start of the collaboration.

- Follow-up on placements of national volunteers trained and deployed in collaboration with AYP, UNICEF and MoYS should be determined to ensure that the human resource developed is utilized to provide services to the agriculture sector. These youth volunteers can be assisted to establish enterprises at county levels that will support farming groups and development agencies in the implementation of activities.
- USAID FED should prioritize capacity-building of local youth NGOs to ensure that they have the necessary technical and business skills to be able to operate more efficiently and profitably. This will be important towards transitioning these local NGOs from donor dependence to profitable entities that can survive. The local youth NGOs have also proven to be ideal platforms for the absorption of recruited youth extension aides.

C. Approach to Achieve LOP Targets/Objectives and FY15 Objectives

I. Strategy for FY15 and FY16

In FY15 and FY16, USAID FED will focus on stimulating participation of at least 500 youth in agriculture and agribusiness, by helping them develop their abilities to establish profitable value chain enterprises. The program will make sure that beneficiary selection across the four value chains will aim for a 45-percent participation of youth. A particular focus will be placed on peri-urban agribusinesses where youth will be assisted to engage as horticulture farmers, aggregators, transporters, extension service providers and traders. Support to FY14 school garden programs, 4H clubs and new deployment of national youth volunteer programs will be led by program partners like AYP and UNICEF.

- At least 45 percent of new beneficiaries recruited under the rice, cassava, horticulture and goat value chains will be youth.
- Identification, training and mobilization of youth groups in Montserrado and Margibi to establish horticulture farms as outgrowers, aggregators and linking them to buyers such as Monrovia Vegetable Traders association, ROSNA and Grain Coast Inc.
- Youth extension aides trained and deployed to provide extension services to horticulture clusters established by youth in Montserrado and Margibi counties.
- Creation of jobs and youth enterprises through cost-share as transportation service providers between farmers, collection and processing centers in the rice, cassava and horticulture value chains.
- Creation of youth micro-enterprises through cost-share that provide lowland rice farmers with power tiller and power saw services to ensure expansion of lowland rice production within the four counties.
- Creation of jobs by training youth as cassava and rice processing machine operators within the cassava-processing facilities and rice business hubs.
- Creation of jobs as blacksmiths and carpenters by providing starter kits to youth apprentices trained as blacksmiths and carpenters in FY14, enabling them to start small businesses that can provide farmers with inputs and services using local materials.
- Facilitating access to financial services for youth groups through VSLA leadership training, business training and mentorship (Component Two).

- Identification, training and mentoring of local youth NGOs at the county level toward strengthening their abilities to sustainably run efficient and profitable operations in extension and business development service provision to USAID FED beneficiaries, other farmers and organizations within the counties.

2. FY15 Anticipated Achievements

- At least 18,647 youths recruited as new beneficiaries: rice 5,850, cassava 3,888, horticulture 6,809 and goats 2,100 for FY15 and FY16 production.
- 25 new horticulture clusters benefitting 500 youth producing high-value vegetables and linked to existing buyers
- 25 new jobs created through training and deployment of youth extension aides in Montserrado and Margibi counties
- 49 new youth micro-enterprises established and operating profitably by providing transport services to 29 cassava processing enterprises and 20 rice business hubs
- 20 new youth micro-enterprises established and operating profitably by providing power tiller and power saw services to lowland rice farmers across the four counties
- 98 new jobs created for youth as machine operators in 29 cassava processing enterprises and 20 rice business hubs
- 16 new micro-enterprises established by apprentices trained in FY14 through the provision of blacksmith and carpenter services to rice and goat farmers
- 110 youth micro-enterprises (25 production clusters, 49 transport entrepreneurs, 20 power tiller operators, 16 blacksmith and carpentry apprentices) assisted to access financial services through business training at enterprise service centers, linkages with VSLAs and microfinance providers
- At least four local youth NGOs supported to operate more efficiently and profitably through training and mentoring

3. FY15 Indicators and Targets

Deliverables	FY15		
	Youth - Total	Female	Male
Number of rural households benefitting directly from USG interventions	683	273	410
Number of farmers and others who have applied new technologies and management practices as a result of USG assistance	683	273	410
Number of hectares under new technologies or management practices as a result of USG assistance	125	N/A	N/A
Number of private enterprises, producer organizations, women's groups, trade and business associations and community-based organizations (CBOs) receiving USG	110	44	66

assistance			
Number of private enterprises, producer organizations, women's groups, trade and business associations and CBOs that applied new technology or management practices as a result of USG assistance	110	44	66
Number of individuals receiving nutrition messages within agricultural programs as a result of USG assistance	683	273	410
Value of incremental sales (collected at the farm level) attributed to FtF	US\$13,350	TBD	TBD
Value of new private sector investment in the agri sector or food chain leveraged by FtF implementation	US\$97,500	TBD	TBD
Number of jobs attributed to FtF implementation	506	202	304
Number of public-private partnerships formed as a result of FtF assistance	208	TBD	TBD
Number of MSMEs, including farmers, receiving business development services from USG-assisted sources	683	273	410
Number of MSMEs, including farmers, receiving USG assistance to access loans	683	273	410
Number of firms (excluding farms) or civil society organizations engaged in agricultural and food security-related manufacturing and services now operating more profitably (at or above cost) because of USG assistance	16	N/A	N/A
Number of individuals who have received USG supported short-term agricultural sector productivity or food security training	683	273	410

D. FY15 Work Plan

I. Results Framework for Subtask I.4

Constraint	Proposed Solutions	Key Activities	Outcomes FY15	Women & Youth involvement
Youth lack training opportunities and information on agriculture and agribusiness	Provide technical and business training to youth across the four value chains	Addressed under rice, horticulture, cassava and goat value chain activities	18,647 youth have agriculture and agribusiness information, skills and are participating in value chain activities	18,647 youth will be recruited across the four value chains

		Identify and train 25 youth extension aides in extension service provision	25 youth extension aides have adequate skills to support horticulture clusters	Young women will be deliberately targeted for training as extension aides
		Identify and train at least 500 youth in modern horticulture farming and aggregation through extension aides	At least 500 youth producing high-value vegetables and are linked to buyers	Young women will be targeted for training and production activities
		Identify and train 49 youth micro-enterprises on business management	49 youth have adequate business skills in operating transport business	Young women will be targeted for business training
		Identify and train 20 youth micro-enterprises on business management	20 youth have adequate business skills in operating power tiller services business	Young women will be targeted for business training
		Identify and train youth as machine operators	98 youth have adequate skills to operate machinery in cassava and rice processing	Young women will be targeted for training on machine operations
There are limited employment opportunities in peri-urban and rural areas	Support establishment of profitable youth micro-enterprises in horticulture production	Establish 25 horticulture clusters in Montserrado and Margibi counties	At least 500 youth producing high-value vegetables and are linked to buyers	500 youth will be recruited to participate in vegetable production
	Create employment through recruitment of youth extension aides	Recruit and deploy 25 youth extension aides in Montserrado and Margibi counties	25 youth extension aides providing extension services to 25 youth horticulture clusters	Recruitment of youth extension aides will target young women
	Support establishment of profitable youth micro-enterprises in transportation services	Establish 49 micro-enterprises in the cassava and rice value chains	29 youth providing profitable transport services through 29 cassava processors; 20 youth providing profitable transport services through 20 rice business hubs	Fifty percent of the enterprises will be aimed at women entrepreneurs
	Support establishment of profitable youth micro-enterprises in	Establish 20 micro-enterprises to provide power tiller services to lowland	20 youth providing power tiller services to lowland rice farmers in four	Fifty percent of the enterprises will be aimed at women entrepreneurs

	power tiller services	rice farmers	counties	
	Support establishment of profitable youth micro-enterprises in blacksmith and carpentry	Support 16 apprentices to establish micro-enterprises	Eight youth operating blacksmith businesses profitably Eight youth operating carpentry businesses profitably	Fifty percent of the enterprises will be aimed at women entrepreneurs
	Capacity of local youth NGOs strengthened to ensure they operate efficiently and profitably	Assess at least four local NGOs to identify capacity gaps Assist the four local NGOs to prepare business plans and strategies for profitability	Four local youth NGOs operating efficiently and profitably	Youth NGOs will be encouraged to employ young women
Youth have no finances to invest in farming	Support enterprises to develop business plans and link them to financial services	Enterprises assisted to develop simple business plans and linked to financial service providers (Component Two)	110 micro-enterprises with access to possible financial capital to meet cost-share obligations and to buy inputs	Developing linkages to financial services will prioritize women-led enterprises

2. Work Breakdown Structure for Subtask 1.4

Activity 1.4.1 Establishment of agribusiness horticulture pilots

- 1.4.1.1 Identify and recruit 500 youth in 25 clusters in Montserrado and Margibi counties
- 1.4.1.2 Establish income and baselines for the identified clusters
- 1.4.1.3 Establish 25 demonstration plots of 0.25 hectares each for training and demonstration of improved varieties, good agriculture practices (GAP) and Integrated Pest Management (IPM) toward production of high-value vegetables (input requirements to be provided through embedded services by the private sector)
- 1.4.1.4 Establish and equip 25 collection centers for aggregation of high-value vegetables and to serve as market outlets
- 1.4.1.5 Link vegetable clusters to local and high-value markets, i.e., Monrovia Vegetable Traders Associations, Grain Coast, ROSNA and other institutional buyers

Activity 1.4.2 Supporting job creation through youth extension aides

- 1.4.2.1 Identify and recruit 25 youth extension aides from peri-urban localities in two counties
- 1.4.2.2 Train and equip youth extension aides with appropriate extension material
- 1.4.2.3 Deploy youth extension aides within the clusters to provide training and extension services to 500 youth within established clusters under the supervision of USAID FED extension staff
- 1.4.2.4 Monitor performance of youth extension aides in extension service provision and data collection

Activity 1.4.3 Supporting job creation through youth enterprises as transport service providers

- I.4.3.1 Identify and recruit 49 youth toward establishment of transport business to support 29 cassava processors and 20 rice business hubs
- I.4.3.2 Assess capital and equipment needs requirement of each individual entrepreneur
- I.4.3.3 Train 49 youth in small business management and business plan development and operations towards developing entrepreneurial skills
- I.4.3.4 Procure and distribute 49 low cost *tuk-tuks* with carry wagons as well as riding gear to 49 youth entrepreneurs through cost-share mechanisms
- I.4.3.5 Link entrepreneurs to cassava and rice clusters and processing sites
- I.4.3.6 Monitor performance and profitability of youth entrepreneurs

Activity 1.4.4 Supporting job creation through youth enterprises as power tiller service providers

- I.4.4.1 Identify and recruit 20 youth towards establishment of tiller business to support lowland rice farmers in land preparation
- I.4.4.2 Assess capital and needs requirements of each individual entrepreneur
- I.4.4.3 Train 20 youth in small business management and business plan development and operations towards developing entrepreneurial skills
- I.4.4.4 Distribute 20 power tillers to 20 youth-owned enterprises through cost-share mechanisms
- I.4.4.5 Link entrepreneurs to lowland rice farmers during land preparation season
- I.4.4.6 Monitor performance and profitability of youth entrepreneurs

Activity 1.4.5 Supporting job creation through training youth as machine operators

- I.4.5.1 Identify and train 58 youth towards operation of cassava processing equipment
- I.4.5.2 Identify and train 40 youth towards operation of rice milling equipment
- I.4.5.3 Link 98 youth to established rice business hubs and cassava-processing enterprises (recruitment of youth can be considered as partnership requirement for processors)

Activity 1.4.6 Supporting job creation through blacksmiths and carpenter enterprises

- I.4.6.1 Identify equipment requirements of eight blacksmith apprentices trained in FY14
- I.4.6.2 Identify equipment requirements of eight carpentry apprentices trained in FY14
- I.4.6.3 Procure and distribute start-up kits and equipment and distribute to 16 apprentices
- I.4.6.4 Monitor performance and profitability of youth apprentices

Activity 1.4.7 Strengthening performance and profitability of local youth NGOs

- I.4.7.1 Conduct an assessment of performance-capacity gaps of local youth NGOs in the counties
- I.4.7.2 Develop training requirements for local youth NGOs based on performance assessments
- I.4.7.3 Conduct training for local youth NGOs on strategy and business plan development
- I.4.7.4 Provide continuous coaching and monitor performance of local youth NGOs

Activity 1.4.8 Facilitating access to financial services for youth enterprise

- I.4.8.1 Conduct assessment of financing needs and requirements of youth enterprises
- I.4.8.2 Link youth enterprises to Enterprise Service Centers toward registration and other business development services support
- I.4.8.3 Monitor number of youth enterprises accessing financial services and their ability to pay

3. Mainstreaming Gender, Youth, ICT and Environmental Compliance

Value chain interventions conducted by USAID FED will deliberately focus on inclusion of gender (men and women) in agribusiness and enterprise development, and require ICT and environmental compliance. Nutrition and Ebola messaging will also be integrated into training activities and extension support services for women and youth.

4. Geographical Plans

It is anticipated that the activities implemented under youth in agri-business interventions will reach 18,647 youths in Montserrado, Margibi, Bong, Nimba, Lofa and Grand Bassa counties during the FY15 implementation period. The individual county targets will largely be influenced by the ability to select beneficiaries and implement activities during Q1 and Q2 of FY15.

Deliverables	County	FY15		
		Total	Women	Youth
Number of youth participating in rice, cassava, horticulture and goat value chains	Bong	3,159	40 percent	3,159
	Nimba	4,164	40 percent	4,164
	Lofa	4,234	40 percent	4,234
	Grand Bassa	3,159	40 percent	3,159
	Montserrado	2,225	40 percent	2,225
	Margibi	1,706	40 percent	1,706
Number of youth participating in horticulture agribusiness pilots	Bong	223	40 percent	223
	Nimba	900	40 percent	900
	Lofa	198	40 percent	198
	Grand Bassa	213	40 percent	213
	Montserrado	250	40 percent	250
	Margibi	250	40 percent	250
Number of youth recruited as extension aides	Bong	15	40 percent	15
	Nimba	18	40 percent	18
	Lofa	10	40 percent	10
	Grand Bassa	14	40 percent	14
	Montserrado	13	40 percent	13
	Margibi	12	40 percent	12
Number of youth-owned transport enterprises supported	Bong	9	40 percent	9
	Nimba	10	40 percent	10
	Lofa	10	40 percent	10
	Grand Bassa	10	40 percent	10
	Montserrado	5	40 percent	5
	Margibi	5	40 percent	5
Number of youth power tiller operators supported	Bong	5	TBD	5
	Nimba	5	TBD	5
	Lofa	5	TBD	5
	Grand Bassa	5	TBD	5

	Montserrado	0	0	0
	Margibi	0	0	0
Number of youth machine operators supported	Bong	40	TBD	40
	Nimba	40	TBD	40
	Lofa	40	TBD	40
	Grand Bassa	40	TBD	40
	Montserrado	18	TBD	18
	Margibi	18	TBD	18
Number of youth blacksmith apprentices supported	Bong	4	TBD	4
	Nimba	4	TBD	4
	Lofa	4	TBD	4
	Grand Bassa	4	TBD	4
	Montserrado	0	0	0
	Margibi	0	0	0
Number of youth carpentry apprentices supported	Bong	4	TBD	4
	Nimba	4	TBD	4
	Lofa	4	TBD	4
	Grand Bassa	4	TBD	4
	Montserrado	0	0	0
	Margibi	0	0	0
Local youth NGOs supported	Bong	2	N/A	2
	Nimba	2	N/A	2
	Lofa	2	N/A	2
	Grand Bassa	2	N/A	2
	Montserrado	2	N/A	2
	Margibi	1	N/A	1

5. Risk Analysis and Mitigation Plan

Deliverable	Target Completion	Responsible Staff	Risk	Mitigation Strategy
Provide technical and business training to youth across the four value chains	December 2014	Value chain staff and Youth Officer	<p>Medium to high: Selection of beneficiaries and training may be delayed due to the current Ebola crisis</p> <p>Extension staff and LNGOs may not have access to beneficiaries in highly affected counties</p>	Selection of beneficiaries will commence in counties and clusters least affected by the Ebola crisis
Support establishment of profitable youth micro-enterprises in	December 2014	Youth Officer with support from horticulture value	High: As Montserrado and Margibi remain high	500 beneficiaries in 25 clusters will be supported over the

horticulture production		chain staff	threat areas for Ebola triggers, it may be difficult to commence any activities in these counties until Q2 of FY15	remaining period of the life of the project Implementation of these activities can commence in Q2 of FY15
Create employment through recruitment of youth extension aides	December 2014	Youth Officer with support from horticulture value chain staff	High: As Montserrado and Margibi remain high threat areas for Ebola triggers, it may be difficult to commence any activities in these counties until Q2 of FY15	Youth extension aides can be identified and trained on sites outside of the affected counties prior to Q2 of FY15, and be utilized to identify beneficiaries within their communities
Support establishment of profitable youth micro-enterprises in transportation services	September 2015	Youth Officer with support from Component Two	Low to medium: Identification of beneficiaries, training and procurement of equipment may be delayed due to the Ebola crisis Youth may not have the capacity to meet cost-share obligations	Identify financing needs for youth entrepreneurs and facilitate access to financial services
Support establishment of profitable youth micro-enterprises in power tiller services	September 2015	Youth Officer with support from Component Two	Low to medium: Identification of beneficiaries, training and procurement of equipment may be delayed due to the Ebola crisis Youth may not have the capacity to meet cost-share obligations	Identify financing needs for youth entrepreneurs and facilitate access to financial services
Support establishment of profitable youth micro-enterprises in blacksmith and carpentry	March 2015	Youth Officer with support from Component Two	Low to medium: Identification of beneficiaries, training and procurement of	Identify financing needs for youth entrepreneurs and facilitate access to financial services

			equipment may delay due to the Ebola crisis Youth may not have the capacity to meet cost-share obligations	
Capacity of local youth NGOs strengthened to ensure they operate efficiently and profitably	September 2015	Youth Officer with support from Component Two	Low to medium: Local youth NGOs may not have the capacity to operate during the Ebola outbreak LNGOs continue to be donor-dependent beyond the life of project	Support youth LNGOs to develop sustainability strategies and provide regular coaching and monitoring during the implementation

Subtask 1.5: Improving Human Nutrition Through Diet Diversity

A. The Challenge

According to the Government of Liberia's 2010 Comprehensive Food Security and Nutrition Survey, 41 percent of the country's population — roughly 1.2 million people — has an unacceptable food consumption level pattern. This means that their consumption is limited or that they are eating food with insufficient nutrition that are inadequate to sustain an active and healthy life. Of these, about 13 percent have an extremely one-sided consumption pattern mainly consisting of rice, roots and tubers. Only 59 percent of the population has a dietary intake composed of food items from all the main food groups. Chronic malnutrition (measured by the number of stunted children) remains among the highest in the world at 52 percent⁴⁴.

The first 1,000 days of life is when the brain develops significantly, up to about 80 percent. If a child is malnourished during this critical window of opportunity, cognitive development is compromised and the damage is irreversible⁴⁵. Chronic child undernutrition occurs at a high level in Liberia, with child stunting experienced by about 36 percent of children who are under two years old. These children may suffer slow cognitive development, poorer school performance, and even lower wages in their productive adult years. The prevalence of anemia among children is about 60 percent. Anemia in pregnant women is also very high, at almost 40 percent, and is one of the key contributing factors for high maternal mortality in Liberia⁴⁶.

⁴⁴ Comprehensive Food Security and Nutrition Survey 2010; MOA and World Food Program

⁴⁵ National Behavior Change Communication Implementation Plan for Nutrition 2012-2014; National Nutrition Coordination committee, UNICEF and European Union

⁴⁶ Ibid

The government has prioritized the Essential Nutrition Actions (ENA) package as part of the Essential Package for Health Services (EPHS). However, nutrition challenges remain prevalent due to traditional consumption patterns that inhibit an enabling environment for optimal feeding practices. This would require a standardized, focused and targeted behavior change approach⁴⁷.

B. FED LOP Objective and Status

I. LOP objectives/Targets

During the life of the project, USAID FED anticipates to reach over 145,000 households participating in the rice, cassava, goats and horticulture value chains. Increased productivity and production will improve availability and access to a diverse food range from staples to protein and vitamin-rich food sources. Improved utilization indicated by improved diet diversity will be achieved through targeted nutrition messages aimed at changing consumption patterns primarily among program beneficiaries. At least 60 percent of these households will receive direct nutrition messaging through USAID FED interventions. Messaging to direct beneficiaries will be provided through training, extension materials and educational courses. By September 2016, FED hopes to improve the diversity of the diet of its beneficiaries.

2. Milestones in FY14

In FY14, at least 69.9 percent of all USAID FED beneficiaries received nutrition messages as part of mainstreaming efforts through extension materials, extension services and training activities, as well as through peer-to-peer interactions within the extensive networks of lead farmers and local NGOs. Posters highlighting the importance of nutrition to pregnant women and to children less than two years of age were also disseminated. Radio jingles were developed, translated and aired in collaboration with four local radio stations to further disseminate nutrition messages to a wider population.

3. Major Challenges in Programmatic Implementation

The Government of Liberia's National Nutrition Coordination Committee and the Ministry of Health and Social Welfare's (MoHSW) Nutrition and National Health Promotion Division developed a National Behavior Change Communication Implementation Plan 2012 - 2014 in collaboration with UNICEF and the European Union. The strategy identified behavior change as the necessary approach to increasing uptake of nutrition interventions and suggested models that could be implemented.

While the ENA messages intended for dissemination to beneficiaries were approved by the MoHSW, the National Behavior Change Communication Implementation Plan was not fully implemented by the MOHSW due to lack of funds. The coordination of nutrition messaging by MoHSW in terms of approval of project-specific messages by development partners has also been delayed due to time constraints.

⁴⁷ A qualitative study of Infant and Young Child Feeding in Liberia, March 2010; Government of Liberia and UNICEF

The Ebola crisis has further diverted the attention of MoHSW and other development partners in pushing forward a common agenda to tackle nutrition challenges and behavior change. For example, due to the restrictions of movement, it has been difficult for USAID FED to conduct a rapid field assessment of communities in the different counties to determine effectiveness of existing messaging strategies, levels of diet diversity among households, and cultural bottlenecks to changing diets. This information is important toward extrapolating nutrition related LOP targets.

4. Lessons Learned in FY14

Nutrition messaging should focus more on behavior change and should be targeted toward audiences of varied traditional beliefs and practices. It will be necessary to use communication strategies that not only communicate the right information to the right audience, but information and methods that primarily discredit negative eating habits and reinforce healthy diets, especially for pregnant women and children under the age of two.

C. Approach to Achieve LOP Targets/Objectives and FY15 Objectives

1. Strategy for FY15 and FY16

USAID FED's objective is to contribute to improving human nutrition in Liberia via diet diversification, particularly by advocating for increased consumption of animal-based protein and micro-nutrient dense food. In FY14, USAID FED integrated ENA messages approved by MoHSW into extension materials and training programs. Messaging was disseminated through training programs, extension services, posters and radio programs. These messages were generic and not targeted specifically toward impacting behavior change on the importance of nutrition to pregnant women and children below the age of two years.

In FY15, the program will focus on behavior-change communication as an approach to nutrition messaging aimed at diet diversification. USAID FED will continue to mainstream nutrition messaging in program activities and work cooperatively with the MoHSW and other USAID projects to ensure that messaging directly addresses the problem of stunting. This will be complementary to ongoing program interventions which are promoting increased production of higher quality and diversified foods. The program will also promote production and processing technologies that not only reduce post-harvest losses but those that also reduce labor requirements for women and, thus, allowing them to spend more time preparing nutritious food for their children and families.

The program will continue to use the radio and leverage other projects working on food security, nutrition and WASH to broaden the reach of its nutrition messaging. USAID FED will use the Agriculture Coordination Committees at the national, county and district levels as platforms for disseminating the behavior-change communication strategy.

2. FY15 Anticipated Achievements

- Survey on factors that impede behavior change toward healthier diet completed and shared with key stakeholders
- Diet Behavior Change Communications Strategy (DBCC) designed and tested in the field based on recommendations of behavior change survey
- Message content and dissemination methodology for the DBCC strategy developed and target audience identified
- USAID FED messages shared with MoHSW and National Nutrition Coordination Committee members for approval
- USAID FED staff trained on behavior-change communication strategy and implementation methodologies
- Survey on determination of change in diet conducted as an outcome of DBCC strategy implementation at the end of FY15
- Nutrition messages developed and disseminated via audio, print and visual media

A Behavior-Change Communication Specialist STTA will be hired to provide technical guidance in the design and development of a feasible diet behavior change communications strategy. These strategies will be implemented in the core counties. However, it is expected that such a strategy may benefit other non-USAID FED counties at the national level through activities of the MoHSW and National Nutrition Coordination Committee.

3. FY15 Indicators and Targets

Deliverables	FY15		
	Total	Women	Youth
Number of individuals receiving nutrition messages within agricultural programs as a result of USG assistance	39,610	19,800	16,000
Number of HHs with improved diet diversity as a result of USG assistance	21,536	10,800	8,600

D. FY15 Work Plan

I. Results Framework for Subtask I.5

Constraint	Proposed Solutions	Key Activities	Outcomes FY15	Women & Youth involvement
Households have limited incomes and capacity to buy diverse food types	Support households to improve income through value chain development Message on spending additional income on diversifying diet	Addressed under rice, horticulture, cassava and goat value chain activities	Households have access to more diverse food types and improved incomes	Women and youth are deliberately recruited as beneficiaries under value chain activities

Lack of awareness of the disadvantages of carb-rich, low protein and minimal micro-nutrient diets and benefits of diversified diets	Nutrition messaging included in extension material, trainings posters, flyers and radio messages	Design, printing and dissemination of extension material, posters, flyers and airing of radio programs	34,398 households receiving nutrition messaging	Dissemination will target women and youth farmers and youth LNGOs
Lack of awareness of the importance of providing protein and vitamin-rich food to pregnant women and children under two years old	Nutrition messaging targets improved nutrition for pregnant women and children under two years old	<p>Conduct study to determine cultural feeding practices in household and craft a communication strategy that prioritizes diet diversification for pregnant women and children under two years old</p> <p>Test Diet Behavior-Change Communications Strategy (DBCC) strategies in the field</p> <p>Design messaging content and dissemination methodologies</p>	<p>Communication strategy tested successfully in the field</p> <p>Communication materials developed</p> <p>Communication materials disseminated</p> <p>34,398 households received messages</p>	Messaging will focus on improved diet for pregnant women and children under two years old
Cultural ideologies and beliefs on food consumption limits household diversification of diets	Implement a diet behavior-change communication strategy and methodology	<p>Conduct survey to determine diet diversification and behavior change trends</p> <p>Developing DBCC strategies</p> <p>Test strategies in the field</p> <p>Design messaging content and dissemination methodologies</p>	<p>DBCC strategy tested successfully in the field</p> <p>Message content, dissemination methodology and target audience identified number of farmers diversify their diets</p>	

2. Work Breakdown Structure for Subtask 1.5

Activity 1.5.1 Development of Diet Behavior-Change Communications (DBCC) Strategy

1.5.1.1 Hiring of behavior change specialist

- I.5.1.2 Preparation for the study: work plan, survey tools toward focus group discussions and key informant interviews developed by Behavior-Change Specialist based on DBCC strategy
- I.5.1.3 Study Conducted
- I.5.1.4 Findings and recommendation presented to USAID FED and other stakeholders
- I.5.1.5 DBCC strategy crafted and materials drafted
- I.5.1.6 DBCC draft strategy and materials presented to stakeholders and approved by MoHSW and MoA
- I.5.1.7 Draft communication materials field-tested, revised and/or approved for dissemination by the MoHSW and MoA

Activity I.5.2 DBCC strategy implemented and monitored

- I.5.2.1 Communication materials printed
- I.5.2.2 Program's DBCC strategy and communication materials used in USAID FED ToTs and training, presented on different platforms, stakeholder workshop and aired on radio
- I.5.2.3 Survey outcome of DBCC strategy
- I.5.2.4 Recommend improvements for FY16

Activity I.5.3 Nutrition messaging outreach to more households

- I.5.3.1 Revise existing material and develop posters, flyers and radio messages conveying various nutrition messaging, with specific focus on behavior change targeting diet diversification within household for pregnant women and children under two years
- 2.5.3.2 Disseminate materials to direct beneficiaries through field extension staff and LNGOs
- 2.5.3.3 Develop customized radio programs based on customized messages and disseminate through radio stations that are partners with USAID FED
- 2.5.3.4 Monitor the uptake and impact of messaging on direct beneficiaries through special studies

3. Mainstreaming Gender, Youth, ICT and Environmental Compliance

Value chain interventions conducted by USAID FED as well as any ICT and environmental compliance activities will deliberately focus on inclusion of gender (men and women) and youth in production and marketing of agriculture produce. Nutrition messaging will also be integrated into VSLA and women-led CBO activities where women are the main target groups. FED's nutrition messaging will aim at getting household support to giving pregnant women and children under two years priority on improved nutrition and diet diversification.

4. Geographical Plans

It is anticipated that nutrition messaging will reach an additional 39,610 farmers and others during the FY15 and FY16 implementation period. This is exclusive of additional households that will be reached via radio programs and by other donor projects within the four core counties of Bong, Nimba, Lofa and Grand Bassa and the two secondary counties of Montserrado and Margibi.

Deliverables	County	FY15
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		Total	Women	Youth
Number of individuals receiving nutrition messages within agricultural programs as a result of USG assistance	Bong	10,850	5,425	4,982
	Nimba	15,015	7,507	6,756
	Lofa	5,480	2,740	2,466
	Grand Bassa	4,990	2,495	2,245
	Montserrado	1,638	819	737
	Margibi	1,638	819	737
Number of farmers and others that diversify their diets	Bong	5,425	2,712	2,441
	Nimba	7,507	3,754	3,378
	Lofa	2,740	1,235	1,111
	Grand Bassa	2,495	1,274	1,122
	Montserrado	819	409	368
	Margibi	819	409	368

5. Risk Analysis and Mitigation Plan

Deliverable	Target Completion	Responsible Staff	Risk	Mitigation Strategy
Study on factors influencing consumption patterns	October 2014	Behavior Change Communication (BCC) Specialist	<p>Medium to high: Recruitment of BCC specialist may be delayed due to the Ebola Crisis</p> <p>Some beneficiaries may not be available to participate in focus group discussions</p>	<p>BCC Specialist can be recruited to develop survey tools and methodologies during the remote Level Of Effort period</p> <p>Beneficiaries in areas less affected by Ebola can be sampled for focus group discussions</p>
DBCC strategy and communication materials developed and approved for dissemination	December 2014	Behavior Change Communication Specialist, Communications	<p>Medium to high: Recruitment of BCC specialist may be delayed due to the Ebola crisis</p> <p>Relevant stakeholders like MoHSW may not be available for validation processes during the Ebola crisis</p>	Developed materials and can be tested and results shared with partners when the Ebola situation normalizes
DBCC strategy implemented with at least 34,398 households in FY15 receiving nutrition messages	September 2014	USAID FED Field Extension staff	<p>Medium to high: Recruitment of BCC specialist may be delayed due to the Ebola crisis</p>	Developed materials can be tested and results shared with partners when the Ebola situation

			The relevant stakeholders i.e. MOHSW may not be available for validation processes during the Ebola crisis period	normalizes
Average number of households with improved dietary diversity score increased	September 2014	USAID FED Field Extension staff	Medium to high: A significant number of beneficiaries may not alter their dietary habits due to traditional beliefs and food preferences	Nutrition messaging will be a continuous activity in day-to-day implementation

COMPONENT TWO: STIMULATING PRIVATE ENTERPRISE GROWTH AND INVESTMENT

Task 2: Enabling Policy Environment for Private Sector Growth

A. The Challenge

As Liberia redevelops its agricultural economy, government policy decisions and the implementation of those decisions are critical. Government policy decisions always involve a compromise between competing goals and limited resources.

Although agriculture represents a large share of the Liberian economy, the rice, cassava, horticulture and goat value chains currently contribute little in comparison to the overall economy. These food-based value chains are not well-developed and largely subsistence in nature. USAID FED's challenge is to get the government's attention in order to address issues affecting food crop agriculture, and to build the human capacity within these sub-sectors so that they may acquire a voice for future reforms.

The key government ministries — Ministry of Agriculture (MoA) and the Ministry of Commerce and Industry (MoCI) — are hampered by weak strategic planning and implementation due to the lack of political will, poor financial and project management systems, poor inter-ministerial coordination, and the overall lack of funding from within the Government of Liberia (GoL) to support ministry initiatives. This means that much needed laws and regulations concerning quality and control for inputs (seeds, fertilizer, and pesticides) and food production have not been developed.

At the same time, the underdeveloped food crop sector offers little in the way of profit due to low production volumes, the high cost of production, and poor quality of outputs. This makes competing with cheap imports very challenging, and has created a general lack of market incentive for the private sector to invest in food crop agriculture. The GoL has put in place almost no incentives to help the private sector mitigate the risk of investment. In fact, the zero import tariff on rice, lack of border control, and rent-seeking behavior by GoL employees all contribute to disincentives for private investors to formalize and invest.

B. USAID FED LOP Objective and Status

I. LOP Objectives/Targets

USAID FED's mandate is to assist key GOL institutions, such as the MoA and MoCI, in building technical capacities in order to identify, formulate, and implement policies and practices that facilitate the growth of the private sector. In addition, USAID FED should identify and target policies, governance issues and regulations to be addressed via the program that affect the selected value chains. Ultimately, these policy changes should improve small and medium enterprises in the value chains to expand their current markets and/or enter new ones. Ideally, the business-enabling environment in Liberia would include the following:

- Ministries (MoA and MoCI) with: 1) staff capable of initiating and leading stakeholder technical working groups that provide relevant analysis and stakeholder buy-in that inform policy

decisions benefiting private sector development; and 2) staff capable of executing, monitoring, and reporting the implementation of subsequent initiatives.

- Established policies that give incentives and support the development and growth of the private sector in agriculture that include, in order of priority:
 - Seed certification
 - Government-sponsored incentives for the agriculture sector players (.e.g., to help mitigate risks taken by private sector that are investing in sub-par value chains)
 - Fertilizer and pesticide quality and control
 - Qualified laboratories
 - Animal health, quarantine, quality and control

Policy Reform (in order of priority)	Impact	Milestones Achieved by FY16
Seed Certification	<p>Farmers will have access to locally produced, verifiable, high-quality, improved seed, which will lead to increased yields</p> <p>Fair market prices for foundation, certified, and good seed will be established and easily justified</p> <p>Competition among seed producers will lead to improved seed quality</p>	<p>Seed certification regulations established</p> <p>Decrees/legislation in place to adapt regulations to Liberian context</p> <p>Seed Board established and officially certifying seed</p>
Policy Incentives	<p>Reduction in investment costs for private sector, leading to improvement in competitiveness of the value chains</p> <p>Improved domestic food security when there is a reduction in reliance on food imports</p>	<p>Relevant analysis conducted on international and regional best practices for incentives and barriers to agri-business registration</p> <p>Recommendations for incentives drafted and sent to policy decision makers</p>
Pesticide and Fertilizer Quality and Control regulation	<p>Farmers will have access to agro-chemicals that have been tested and/or are of verifiable quality and that are properly labeled</p> <p>More effective and responsible use of agro-chemicals leads to improved production quality and yields, a reduction in lost crops and a reduction in risk to human health</p>	<p>Pesticide and fertilizer regulations established</p> <p>Decrees/legislation in place to adapt regulations to Liberian context</p>

Qualified laboratories	<p>Imported/exported food and agro-chemicals can be tested, leading to overall improved quality and safety of products used by farmers and consumed by Liberians</p> <p>Improved ability of private sector to reach foreign markets, especially for gari and fresh vegetables.</p>	<p>National laboratory needs are expertly assessed</p> <p>Upgrades made to National Standards Laboratory that deal with agriculture and food products</p> <p>Legislation sent to National Legislature to officiate and mandate such laboratories</p>
Animal health, quarantine, quality and control	Reduction in mortality rates, improved quality and quantity of animals for marketing and consumption	National Livestock Policy sent to the National Legislature for adoption.

2. Milestones in FY14

2.1 Policy Incentives

In FY14, USAID FED hosted several policy dialogue forums with government officials, donors, and the private sector about the rice import tariff, its effect on the competitiveness of local rice production in Liberia and the way forward for creating appropriate, equitable incentives for this value chain. As a result of USAID FED's efforts, Executive Order No. 30 was renewed as Executive Order No. 64 for an additional year.

Also through the policy dialogue sessions, FED succeeded in getting full support from MoCI in moving forward with evaluating various other initiatives to improve the business-enabling environment (more long-term policy incentives such as tax holidays, 25 percent local procurement requirement to spur investment, and import licensing regimes.) Finally, USAID FED spearheaded, in partnership with MoCI, the Liberian Agriculture Business-Enabling Environment Inter-agency Policy Group (LABEE).

2.2 Seed, Fertilizer, and Pesticide Regulations

Through collaboration with local and regional partners – namely the World Bank-funded West Africa Agriculture Productivity Program (WAAPP), the USAID-funded West Africa Fertilizer Program (WAFP), the West and Central African Council for Agricultural Research and Development-supported West Africa Seed Program (WASP), the Permanent Interstates Committee for Drought Control in the Sahel (CILSS) and ECOWAS – the MoA was advised that in order to harmonize with West African countries, existing ECOWAS regulations concerning seed, fertilizer, and pesticides need only be published in the National Gazette in order to become law. As a result of the recommendations, the three ECOWAS regulations were officially published in the National Gazette on July 16, 2014 thereby becoming Liberian law.

2.3 MoCI Conference 2014

To facilitate the communication and adoption of policies promoted by the project, FED supported the MoCI in convening the second annual MSME Conference 2014. This year's conference put a spotlight on agri-business and youth. Overall, the MSME Conference was a success for based on the following results:

- The 25 percent local procurement regulation (Small Business Empowerment Act) is expected to be ratified into law. The law will require the GoL to procure at least 25 percent of its goods and services from locally registered businesses.
The President of Liberia signed on April 25, 2014 Executive Order No. 64, suspending import tariffs on “essential equipment, agricultural seeds, live animals for breeding, and other goods directly related to agricultural development.” USAID FED lobbied for this for nearly six months and provided a list of agro-inputs and corresponding codes for MoCI to use as part of the law.
- Deputy Minister for Industry, Ahmed Bah, agreed to champion the effort to recruit members for the technical working group (TWG) for LABEE. Deputy Minister Bah also committed his team to lead the TWG in partnership with USAID FED. The TWG launched in June and is still in the process of finalizing the terms of reference.

2.4 Livestock Policy and National Phytosanitary Committee

In FY14, USAID FED participated in the launch of the National Livestock Policy Hub hosted by the MoA in partnership with the African Union Inter-African Bureau for Animal Resources' (AU-IBAR) project, Reinforcing Veterinary Governance in Africa (VET-GOV). The launch of the hub is the first of many required to move the National Livestock Policy through the Liberian Legislature and proceed to an implementation stage. At the same conference, MoA and AU-IBAR launched the National Sanitary and Phytosanitary (SPS) Committee, which will oversee the creation, legislation, promulgation, and implementation of a much broader set of laws dealing with plant and animal health and food safety. To date, however, action plans developed by these two committees have not been put into effect and no subsequent committee meetings have been scheduled, exemplifying the MoA's lack of capacity to manage the process.

2.5 Assessment of Training Needs and Training for Relevant Government Agencies and Private Sector

The FY14 work plan called for USAID FED to assess the training needs of MoA and MoCI staff and implement training programs in policy development, financial management, and possibly the use of ICT as a management tool. The Minister of Agriculture, however, rejected the proposal, stating that her team was not in need of additional support in this manner. Thus, the program did not move forward with the assessment.

USA FED, meanwhile, consulted several times throughout the year with the Minister and Deputy Ministers at MoCI to ascertain their buy-in for similar assessments. MoCI is currently transitioning their MSME Division into a Small Business Bureau via the Small Business Empowerment Act that is expected to be ratified by the National Legislature by the end of 2014. At that time, MoCI will be amenable to receiving this type of assistance, as this will require hiring of all new staff.

2.6 National Standards Laboratory

The FY14 work plan called for USAID FED to conduct an assessment of the needs of the National Standards Laboratory (NSL) in order to provide services that are crucial to the food-crop sector, such as testing quality of imported agro-chemicals and quality of processed food for local markets. In Q3,

MoCI launched a TWG aimed at coordinating the efforts of donors, MoCI and the NSL staff to make the laboratory self-sustaining. In Q4, MoCI approved USAID FED's proposed consultancy to conduct a market study, business plan, gap analysis, and phased funding strategy to move the laboratory to the next step.

3. Major Challenges in Programmatic Implementation and Lessons Learned

Overall, the program learned a major lesson in FY14 about the general lack of coordination and collaboration on agriculture initiatives between GoL agencies and ministries. There is also very little capacity at these ministries to generate and analyze data that could inform policy decisions, strategically plan projects, or monitor project performance. Stakeholders participating in the policy dialogue sessions applauded the effort and called for more collaboration. Furthermore, the MoCI MSME Conference served as an excellent platform from which the government could announce the measures it is taking to support the private sector. As a result, government officials were motivated to move quickly to adopt proposed measures, namely the renewal of EO No. 30 and the announcement of the 25-percent local procurement requirement for government purchases.

USAID FED should assist MoA only with initiatives that are clearly defined, *verifiable*, and with commitment from MoA staff for follow-up. MoCI seems to be a more appropriate partner for policy initiatives related to improving the business environment and commercializing the value chains. USAID FED should, therefore, continue to partner closely with MoCI, and invite MoA staff to participate in critical technical working groups.

In FY14, the MoA requested USAID FED to hire a legal counsel to draft two national policies – the National Seed Policy and Regulatory Framework and the Liberian Plant Protection and Regulatory Policy – into statutory language to be submitted to the Liberian National Legislature for adoption into law. Even though the Minister agreed to publish the ECOWAS regulations in the National Gazette, thereby automatically becoming a Liberian law, the MoA insisted that the program move forward with the drafting of statutory language for the two national policies in order to comply with World Trade Organization requirements. With no legal experts available in Liberia who could advise USAID FED on whether these policies are still necessary, USAID FED will have to engage outside legal counsel for a clearer interpretation.

The FY14 work plan called for FED to identify several Public-Private Partnerships (PPP) to be established during the life of the project, and to formalize at least two Global Development Alliances (GDAs) by the end of FY14. In FY14, the program submitted two proposals to Chevron for partnership to expand peri-urban vegetable production and to establish teaching kitchens at the Centers of Excellence. In addition, USAID FED attempted to partner with Coca-Cola under its “5By20” program that seeks to promote economic development and equality for 5 million women by 2020. Unfortunately, Chevron was only willing to fund a small portion of the peri-urban vegetable project and Coca-Cola did not have funding for projects that do not promote their value chain.

USAID FED met with two major rice importers, however, who were part of the policy dialogue platforms. Both importers were interested in partnering to expand rice and cassava processing. Based

on this experience, the program will strive to partner with private sector entities with vested interests in agricultural activities.

While Executive Order No. 64 was reinstated, there was no outreach to the private sector to explain benefits and procedures. As a result, the private sector does not know it exists and if they do, they are not following the correct procedures and cannot take advantage of the waiver. Future incentives need to be accompanied by outreach programs.

Finally, due to the outbreak of Ebola in Liberia, it was difficult to recruit outside consultants to come to Liberia to perform the consultancy for the National Standards Laboratory.

C. Approach to Achieve LOP Targets/Objectives and FY15 Objectives

I. Strategy for FY15 and FY16

In FY15, USAID FED will focus on four main priorities:

- Work with MoCI and MoA to identify the best package of incentives for private sector entities looking to invest in food crop value chains.
- Put into action the ECOWAS regulations on seed certification, pesticide and fertilizer.
- Identify what is needed to upgrade and/or establish existing laboratories necessary to certify seeds and ensure quality and safety of pesticides and fertilizers.
- Assess the capacity of MoCI staff and come up with capacity-building plans.

In FY16, USAID FED will focus on submitting policy recommendations to decision makers and building the capacity of MoCI and MoA to analyze policy initiatives. In addition, USAID FED will explore building the capacity of private sector and civil society entities to lobby for important issues in the National Legislature.

2. FY15 Anticipated Achievements

Reforming agriculture policies is the business of all stakeholders, including relevant GoL ministries and agencies, the private sector and all donors engaged in developing Liberia's agriculture sector. As facilitator, USAID FED provides input to inform the policy formulation and the policy implementation process while working in close collaboration with major stakeholders.

Based on the success of the policy dialogue sessions in FY14, the program will continue working in FY15 with stakeholders through targeted technical working groups (TWG) for seed, pesticide, fertilizer, agribusiness incentive policies, livestock, SPS, and the establishment of an independent lab for testing of agro-chemicals.

These TWG are necessary to assist stakeholders in collaborating, agreeing on issues, generating relevant data and analysis concerning issues, and making recommendations to policy-makers. USAID FED will support the TWGs with any necessary logistical support for meetings and with technical expertise as

identified by the TWG. FED will also work with MoCI to conduct a needs assessment and conduct capacity-building for new staff for the newly established Small Business Bureau. Finally, the program's Business-Enabling Environment team will work closely with the Component One to source Global Development Alliances (GDAs) from among the program's private sector partners.

3. FY15 Indicators and Targets

LOP Target Objective

FED will facilitate the establishment of seven areas of policy reforms for the life of the project and. A total of 800 enterprises are participating in USG-assisted value chains.

FY15 Objective

FED will provide assistance in the drafting of implementing guidelines for the seed, fertilizer and pesticides regulations that have recently been adopted in Liberia; and provide business development support (BDS) to 250 micro-and-small enterprises participating in USG-assisted value chains. FED will also strive to push for additional incentives to encourage investments in agri-businesses and support the efforts to upgrade functionality of the National Standards Laboratory.

In addition, FED will assess, create, and implement capacity-building plans for the MoCI's Small Business Bureau once it is established.

Stage	Seed Certification	Fertilizer	Pesticide	EO#64 Agri-business Incentives	Agri-business Incentives	National Standards Laboratory
Stage 1: Analyzed					FY15	FY15
Stage 2: Drafted and presented for public/stakeholder consultation						
Stage 3: Presented for legislation/decreed						
Stage 4: Passed/approved						
Stage 5: Passed for which implementation has begun (S)	FY15	FY15	FY15	FY15		

Indicator	Deliverables	FY15		
		Total	Women	Youth
4.5.1-24	Number of Policy/Regulations/Administrative Procedures f starting to be implemented as a result of USG assistance	3 (seed, fertilizer and pesticides)	N/A	N/A
4.5.2-11	Number of private enterprises, producers organizations, women's groups, trade and business associations and community-based organizations receiving USG assistance	250	113	138

4. FY15 Work Plan

1. Results Framework for Task 2.0

Constraint	Proposed Solution	Key Activities	Outcomes in FY15	Women and Youth Involvement
Weak capacity for strategic planning and coordination by GoL agencies	Guide GoL ministries, donors, and private sector to collaborate in establishing meaningful reforms and move forward on implementation plans Work with MoCI to build staff capacity at the new Small Business Bureau	Provide logistical and technical expertise to TWGs for Seed, Pesticide and Fertilizer, the SPS Committee, the Livestock Policy Hub, and the National Standards Laboratory. Conduct a needs assessment of the new Small Business Bureau, formulate and implement training plans for staff	At least three policy reforms advanced to the next stage Training is provided to MoCI's Small Business Bureau	N/A
Lack of market incentives for private sector to invest in	Work with stakeholders in LABEE TWG to identify appropriate policy measures that can be taken to improve incentives for the private sector.	Provide logistical and technical expertise to LABEE TWG.	At least one policy reform advanced into the next stage	N/A

2. Work Breakdown Structure for Task 2.0

Activity 2.0.1 Policy Reform Activities via Technical Working Groups

Task 2.0.1.1 LABEE Technical Working Group

The group aims to identify ways the GoL and donors can help the private sector mitigate the risk of investing in the food crop sector and to facilitate access to capitalization for investors. In FY15, FED will

assist MoCI to finalize the terms of reference, establish an action plan and timeline, and move forward with selected analysis to inform policy decision makers. USAID FED will support expert technical assistance in conducting two sets of analysis: 1) A review of international and West African best practices in establishing incentives in agriculture and 2) a review and analysis of the barriers to business registration for agri-businesses.

Task 2.0.1.2 Seed, Pesticide, and Fertilizer Technical Working Group

The group aims to ensure that key decisions and measures will be taken to implement and adapt to the Liberian context the three ECOWAS regulations published and made into law in FY14 (seed, pesticide, and fertilizer). Though the regulations are official law, the following additional measures must be taken:

- Seed Regulation
- Institute a National Catalogue of Plant Varieties and Species (CPVS)
- Institute a National Seed Committee (NSC) or National Seed Board
- Establish funding to support the seed sector
- Establish executive regulations related to production, quality control and certification of seeds and seedlings in Liberia

The responsibility to follow up with these measures lies with MoA. However, USAID FED will partner closely with WAAPP and representatives from ECOWAS, CILSS, WASP, and WFP to sponsor and implement the TWG. USAID FED will support expert technical assistance to MoA in putting implementation measures in place.

Task 2.0.1.3 National Standards Laboratory (NSL) Technical Working Group

The groups aim is to bring together multiple stakeholders, including private sector and donors, in order to assist the NSL in achieving accreditation and self-sustainability. The group is spearhead by the MoCI, and FED will assist in conducting a market study, business plan, and phased road map to achieve these goals. Based on analysis, USAID FED may provide in-kind support to equip the laboratories to analyze agro-chemicals and other agriculture-related products that would benefit the private sector.

Task 2.0.1.4 Livestock Policy Hub and SPS National Committee

The purpose of both of these groups is to ensure that policies concerning livestock and phytosanitary measures are instituted. Both of these groups are officially spearheaded by MoA with some technical support from the African Union Inter-African Bureau for Animal Resources' (AU-IBAR) Reinforcing Veterinary Governance in Africa project (VET-GOV). USAID FED will act as a participant, providing feedback and technical support when requested, and may provide support to host a national stakeholder's forum for the SPS National Committee.

Activity 2.0.2 Assessment of Training Needs and Training for Relevant Government Agencies and Private Sector

Task 2.0.2.1 Recruit Consultant for Assessment and Capacity-Building Plan

Recruit an international consultant with expertise in assessing and building capacities of government ministries to improve organizational development, policy analysis and development and strategic planning.

Task 2.0.2.2 Conduct Assessment of MoCI

Work with MoCI to conduct a comprehensive assessment of skill sets and needs of the newly formed Small Business Bureau and Bureau of Industry within MoCI.

Task 2.0.2.3 Develop Capacity Development Plan and Curriculum

Create a capacity development plan for staff and/or recommend curriculum to be used for capacity building. Areas may include:

- *Policy Development Training:* USAID FED may use DAI's Policy Development Training Package (PDT), which teaches critical thinking process that requires an articulation of why a policy is needed, its objectives, its costs/benefits to businesses and communities, policy composition covering background and planning/timeline for implementation and enforcement, and planning for public-private dialogue forums. The training covers the full policy lifecycle, from formulation to public-private dialogue, implementation, enforcement, and assessment of the extent to which the policy had the desired effect on behavior change.
- *Financial Management and Business Development Services Training:* USAID FED may develop training modules and a training plan in best practices in agri-business financial management (financial record-keeping, business planning, business management, etc.) to improve staff knowledge and skills in advising and/or managing agri-businesses.

Task 2.0.2.4: Implement Capacity Development Plan

Implement the capacity development plan through initial training and mentorship session with MoCI and program staff and make recommendations to USAID FED regarding long-term mentorship and follow-up.

Activity 2.0.3: Promotion of Public-Private Partnership (PPP) to Benefit Feed the Future Objectives

Identify several PPPs within the life of the project and formalize at least two Global Development Alliances (GDAs) in FY15. These GDAs will be used as platforms from which embedded services and credit can be delivered to a larger proportion of prospective beneficiaries.

Task 2.0.3.1 Select GDA Partners

Select partners who have worked with program beneficiaries in the past and who have an interest in engaging in mutually beneficial partnership activities with suppliers.

Task 2.0.3.2 Negotiate Terms of MoU and Contracts

Sign MoUs with participating GDA partners stipulating cost-sharing arrangements and responsibilities. FED will also facilitate the negotiation of contracts between the MSMEs and suppliers.

Task 2.0.3.3 Locate Financing (Optional)

Work with IBEX and the selected GDA partners to locate funding for MSMEs to pre-finance contracts with suppliers.

Task 2.0.3.4 Execute MoU

Activity 2.0.4 National Standards Laboratory (See National Standards TWG above)

Task 2.0.4.1 Recruit Consultant for Market Study, Business Plan, Road Map

Recruit an international consultant with expertise in assessing/consulting national labs and writing business plans for their self-sustained operation.

Task 2.0.4.2 Conduct Market Study, Business Plan, Road Map

Conduct a gap assessment to include inventory of the laboratory (physical equipment and management), requirements for accreditation, and what is needed to start generating revenue. Conduct a review of the legislative requirements needed to establish the National Standards Laboratory as a legal entity and make recommendations as to the best possible legal and business model to be established. Conduct desk review and field interviews with private and public sector using selected tool of measure for market study utilizing focus groups. Develop preliminary report of findings and conduct interactive review session with stakeholders.

Task 2.0.4.3 Present Findings and Recommendations to USAID, FED, MoCI, and NSL TWG

Present the final report with recommendations to USAID, FED, MoCI, and NSL on best way forward regarding the legal structure, operation and management of the NSL based on international best practices. The recommendation will also contain a phased roadmap with detailed steps and recommendations for necessary capital and operational investments to be made over a given period of time in order for the lab to reach accreditation.

Task 2.0.4.4 Implement Recommendations / Procurement

Once a feasible business plan and phased road map are established for the NSL, it will inform FED about what additional investments are needed to complete the lab that FED would then cost-share. If necessary, FED will work with MoCI to find private sector funders for the remaining cost-share.

Activity 2.0.5 Legal Advisory Services

Task 2.0.5.1: Recruit Legal Advisors

Recruit local and international legal advisors to advise on the implications of implementing national policies concurrently with ECOWAS regulations (seed, pesticide, fertilizer) and the impact on WTO accession.

Task 2.0.5.2 Legal Advisors Conduct Research, Analysis, and Recommendations

Review current MoA national policies on seed and pesticide alongside ECOWAS regulation documents to determine if additional legislation is needed. Give advice on the impact the regulations and legislation have on Liberia WTO accession.

Task 2.0.5.3 Implement Recommendations, Translate Policies to Statutory Language

Determine if national policies need to be converted into statutory language for submission to the National Legislature. If yes, hire local or international legal experts to implement the translation to statutory language.

Activity 2.0.6 Outreach to Promote Executive Order No. 64

Task 2.0.6.1 Meet with Government of Liberia Ministries to Develop Guidelines

Work with MoCI and MoA in developing clear guidelines for applying for the duty waiver and meet with the Ministry of Finance (MoF) to set up and request monthly reporting from customs data to track utilization and develop clear guidelines for customs officials on how to record such waivers.

Task 2.0.6.2 Develop Press Releases, Radio Messages and Flyers

Draft press releases and advertisements for Monrovia newspapers and short radio messages discussing EO#64.

Task 2.0.6.3: Execute Outreach and Monitor Results

USAID FED's Communications team will distribute press releases via FED's network of journalists. County managers will assist by setting up radio announcements in the counties and posting flyers in county offices, community colleges, local businesses and community centers. FED will liaise with MoF to distribute guidelines to customs officials in all border locations. Then, on a quarterly basis, the program will work with MoF to generate utilization reports.

3. Mainstreaming Gender, Youth, ICT and Environmental Compliance

This section is not applicable.

4. Geographic Plans

This section is not applicable.

5. Risk Analysis and Mitigation Plan

Deliverable	Target Completion	Responsibilities of	Risk	Mitigation
Conduct initial assessment and develop training package/plans for approximately 20 staff of MoCI	FY15	STTA, BEE Officer, Ent. Dev. Specialist	The Small Business Bureau is not officially established by the National Legislature	Work with remaining staff at the M/SME division and current MoCI staff

Advance seed certification, fertilizer, and pesticide implementation process by following these steps: 1) Institute a National Catalogue of Plant Varieties and Species 2) Institute National Seed Committee 3) Establish executive regulations related to production, quality control and certification of seeds and seedlings in Liberia	FY15	BEE Officer, Ent. Dev. Specialist	Lack of political will and rent-seeking bureaucracy of National Legislature may hold up required legislation Lack of government funding in FY15 or FY16 to cover expenses for Seed Board and any new relevant staff	Seek legal advice to find out if additional legislation is needed or if decrees can be made simply at the Ministry level Work with WAAPP, ECOWAS Task Force, and regional partners for implementation of certain measures without legislation WAAPPs cover salaries for a short period of time, if necessary
LABEE TWG Incentive Recommendations	FY15	BEE Officer, Ent. Dev. Specialist	Lack of political will and rent-seeking bureaucracy of National Legislature may hold up legislation	Ask STTAs to give non-legislative and legislative recommendations to improve incentive and business registration programs
National Standards Laboratory assessment	FY15	BEE Officer, Ent. Dev. Specialist	Failure to find qualified STTA to conduct the assessment	Recalibrate timeline and carry over to FY16

6. Partnerships

Regional and Local Partners include The World Bank-funded West Africa Agriculture Productivity Program (WAAPP), the USAID-funded West Africa Fertilizer Program (WAFP), the West and Central African Council for Agricultural Research and Development-supported West Africa Seed Program (WASP), the Permanent Interstates Committee for Drought Control in the Sahel (CILSS), and representatives from ECOWAS. Each entity has a similar mandate to ensure that Liberia harmonizes its seed, pesticide, and fertilizer laws with regulations established by ECOWAS at the regional level.

All these partners form a Task Force that was integral to getting the three regulations published in the National Gazette. A local project co-located at the Ministry of Agriculture will collaborate closely with WAAPP in FY15 to move forward with implementing the three regulations.

Subtask 2.1: Access to Financing

A. The Challenge

Access to finance in the food crop sector in Liberia is challenging due to the high cost of credit and the lack of formalized micro-agri-businesses. Many farmers lack financial records, have no bank accounts and cannot prove a history of profitable operation. Though there are two banks with the Development Credit Authority's (DCA) 50 percent loan guarantee — Ecobank and International Bank of Liberia — lending in the agriculture sector for food crops is rare. This is in part due to the following:

- A large part of the population remains outside of the formal banking sector, leading to low levels of deposits for use in on-lending
- Lack of borrower readiness, i.e., borrowers have no formal financial records, are not formally registered, do not have a history of profitable operation or management of money, do not have a viable business plan, and/or do not have sufficient collateral
- There is a pervasive culture of non-repayment and a general lack of understanding of how to manage and use loans appropriately in Liberia that has led to heavy losses for banks

As a result of these factors, interest rates are high, loan terms are short, borrower requirements such as collateral are high and funds for on-lending are scarce.

Micro-finance institutions (MFIs) exist in Liberia, and loans are available to some entrepreneurs. However, Liberia Entrepreneurial and Asset Development (LEAD) is the only MFI known to be successfully lending to farmers. In general, loan pools of MFIs are limited due to a heavy reliance on donor funding and a culture of non-repayment in Liberia. In addition, it is difficult and expensive for MFIs to reach agriculture clients due to their rural nature and the fact that financial services must be accompanied by some form of extension services. Finally, terms through MFIs are limiting (usually six months to a year with repayment beginning at month four). Therefore, additional financing must be sourced for micro-businesses that require longer, more flexible terms to match cash flows.

Some value chain-embedded financing does exist between lead farmers and outgrowers and some crop pre-financing exists between traders, specifically Go-Buy-Chop women, and farmers. However, past abuses in the system has led to the erosion of trust among these groups.

B. FED LOP Objectives and Status

I. LOP Objectives/Targets

USAID FED's mandate is to improve the business-enabling environment for agri-business by improving their ability to access finance to invest in their businesses, which is necessary in order to upgrade and improve the profitability of the value chains. Ideally, a healthy environment that creates access to finance for agri-businesses would include the following:

- Formal financing through banks with the Development Credit Authority (DCA) or MFIs that is accessible to advanced and established farming organizations and MSMEs at reasonable interest rates (e.g., 9-to-16 percent annually) and for longer, more flexible terms (e.g., more than one year, with first payment deferred to account for harvest season)
- Well-established informal financing institutions, such as village savings and loan associations (VSLA), that are registered, are capable of accessing additional capital for lending to their members, and are capable of ultimately transforming into more formal institutions, such as micro-credit unions;

- Value chain stakeholders participating in value chain financing mechanisms such as embedded services (e.g. buyers offering credit for inputs in exchange for guaranteed marketing of products through formal contracts).

The number of targeted MSMEs (including farmers and others) assisted to access formal or informal credit is 29,000. The amount of private financing mobilized for the agriculture sector stands at US\$2.6 million. To date, USAID FED has achieved 15 percent of this target. Value of sales generated from MSMEs accessing credit is US\$1.2 million. To date, USAID FED has achieved 9 percent of this target.

2. Milestones in FY14

2.1 Village Savings and Loan Associations

- VSLA program expanded from a pilot of 26 groups to an additional 97 groups (123 groups in total), benefiting 3,400 farmers, mostly women.
- VSLAs generated US\$184,000 in savings-based loans for members that facilitated US\$120,000 in sales; US\$184,000 in investment; and over 1,000 part-time jobs. Groups reported utilizing loan funds for agriculture activities such as hiring labor to brush and maintain fields, purchasing seeds, agro-chemicals and tools, and for transporting goods to the market.
- USAID FED collaborated with IBEX to create customized training and mentorship modules for VSLA groups, training 16 pilot VSLA groups. By the end of FY14, six VSLA groups had registered with NAPEX and were pre-qualified to receive loans from the Central Bank to be used for on-lending to their members.

2.2 Loans from Micro-Finance Institution, Liberia Entrepreneurial and Asset Development (LEAD)

- LEAD, in collaboration with USAID FED, generated loans of US\$36,000 to vegetable farmers with an 89 percent repayment rate. Farmers reported generating US\$44,000 in sales, as a result of having access to capital that was used to expand their vegetable farms.
- LEAD was given an additional grant of US\$237,000 from the United States Africa Development Fund (USADF) for FY15, which will be made available for lending to program farmers (rice and vegetable) and entrepreneurs in processing and trading.

2.3 Embedded Services and Financing

- Wenco provided nine rural agro-dealers with US\$56,000 of embedded financing in the form of agro-chemicals on credit, to support the USAID FED vegetable value chain voucher program benefiting 373 farmers.
- USAID FED piloted the use of 20 formal purchasing contracts between Go-Buy-Chop women traders and vegetable farming clusters.

2.4 Other funding – USADF

- USAID FED helped two farming groups to secure USADF financing, approximately US\$50,000 each. The funds will allow the groups to add cassava and rice processing to their farm businesses.

3. Major Challenges in Programmatic Implementation and Lessons Learned

Regardless of the source of funding, borrowers must be able to prove that they are investing loan proceeds in income-generating activities and that they will repay their loans on time in order for lenders, whether formal or informal, to take the risk on the loan. Farmers working in income-generating clusters ensure a natural accountability to each other that is difficult to achieve without this cohesiveness. The use of VSLAs and the disbursement of MFI loans through established USAID FED vegetable clusters have both proven to be great platforms for helping the farming communities do this. Once farmers can prove that they can manage savings and loans internally and generate income from investments, they are eligible to access more formal financing through banks and MFIs, and can work toward formalization of their VSLAs and groups.

In FY14, USAID FED hired independent consultants in each county to roll out the VSLA program. While this was a useful exercise in order to tailor the program to the program's needs, it was difficult to gather information on a monthly basis in a timely and accurate manner. Scaling up will require outsourcing and partnership with local NGOs that will be required to relay all necessary data on a monthly basis as a basis for payment. In addition, while most of the VSLA and MFI loans in FY14 were used for labor and basic inputs, little was used for improving the technology used by farmers (such as irrigation or value addition.) USAID FED will enhance VSLA training curriculum to heavily emphasize various ways to invest in new technology in agriculture.

While USAID FED successfully piloted the use of formal contracts between Go-Buy-Chop women and vegetable farmers, traders did not immediately engage in any pre-financing with the farmers. Traders stated that they need to transact business with such farmers for a longer period of time in order to be sure that farmers will follow through. Traders are willing to pilot the use of embedded services in FY15, however, they will need access to additional sources of funding, possibly through MFIs to do so. In addition, Weinco was willing to provide credit to agro-dealers, but dealers struggled to pay back the consignment loan due to very poor voucher redemption rates by vegetable farmers. USAID FED will need to ensure that future systems set up to embed services meet the needs of all value chain stakeholders.

C. Approach to Achieve LOP Targets/Objective and FY15 Objectives

I. Strategy for FY15 and FY16

In FY15, USAID FED will continue to build on the platforms created in FY14 that allow VSLAs and strong farming groups to access and repay MFI loans. By continuing to manage funds through savings, lending, and record-keeping, these platforms not only increase their ability to serve their members with higher loan pools, but become more bankable to more formal financing options. In addition, the program will begin to link MSMEs to established and functioning USAID FED farming clusters and encourage them to form more formal relationships as a basis for providing embedded financing. If needed, these MSMEs will utilize loans from DCA banks to help fund these activities.

In FY16, the program will build on the successes and lessons learned from FY15 pilot activities. Advances to the next level should include the following:

- VSLAs should become more formal and permanent micro-credit unions, increasing membership numbers and accessible loan amounts.
- MSMEs that have accessed small, short term MFI or DCA bank loans and have proven their ability to repay will have access to larger lines of credit and for longer terms.
- MSMEs will be willing to engage in more extensive embedded services and formal contracts with farming clusters based on proven ability to work together in delivering products demanded by the market.
- USAID FED will engage local NGOs and partner with Microlead in order to expand the VSLA program.

In FY15, FED will explore self-sustaining mechanisms to deliver VSLA training to farmers in FY16. Options include independent micro-businesses contracted through Enterprise Service Centers (ESCs), as a member service through National Association of Village Savings and Loan Association (NAPEX) and/or through micro-credit unions. USAID FED will utilize technical expertise to improve LEAD's efficiency by training new staff on MFI software and by utilizing ICT (i.e., mobile money) to reduce transaction costs. USAID FED will leverage an existing MoU with IBEX to facilitate loan applications DCA banks for MSMEs. Finally, the program will work with selected partners for the ESCs in order to help build equipment rental and transportation service micro-businesses.

2. FY15 Anticipated Achievements

- Continue to establish, mentor, and monitor VSLAs
- Expand VSLAs from 123 to 573, facilitating loans of US\$350,000 to 7,075 farmers
- Enhance VSLA training to include investments in improved technology in agriculture
- Assist up to 50 VSLAs in registering with NAPEX and applying for loans
- Assist with piloting at least one VSLA with forming a micro-credit union in partnership with Microlead
- Expand MFI loans to program farming clusters and MSMEs
- Partner with LEAD and USADF to expand their reach to more farming clusters and to Lofa County, where there are currently no MFIs operating
- Link LEAD to farmers and MSMEs to disburse US\$237,000 in loans to 1,416 farmers and entrepreneurs
- Train up to five new LEAD staff in MFI software
- Pilot the use of ICT (e.g., mobile money) in at least one district's loan process
- Link LEAD to FED-supported ESCs to continue LEAD's ability to provide loans to qualified farming groups and MSMEs
- Expand embedded financing
- Facilitate financing for at least three MSMEs interested and capable of providing embedded services to farming clusters

3. FY15 Indicators and Targets

LOP Target Objectives

USAID FED will facilitate financing amounting to US\$2.6 million for 29,000 farmers and entrepreneurs across the four value chains through a combination of VSLA, micro-finance, embedded and formal financing. Access to finance will generate US\$2.6 million in investment, US\$1.2 million in sales, and 5,000 jobs.

FY15 Objectives

USAID FED will facilitate financing amounting to \$750,000 USD for 8,591 farmers and entrepreneurs across the four value chains through a combination of VSLA, micro-finance, embedded and formal financing. Access to finance will generate \$750,000 USD in investment, \$300,000 USD in sales, and 2,000 jobs.

Indicator	Deliverable	FY15		
		Total	Women	Youth
4.5.2-13	Number of rural households benefiting directly from USG interventions	8,591	7,570	4,294
4.5.2-5	Number of farmers and others who have applied new technologies or management practices as a result of USG assistance	8,591	7,570	4,294
4.5.2-11	Number of private enterprises, producers organizations, women's groups, trade and business associations and community-based organizations (CBOs) receiving USG assistance	359	316	179
4.5.2-28	Number of private enterprises, producer organizations, women's groups, trade and business associations and community-based-organizations (CBOs) that applied new technologies or management practices as a result of USG assistance	359	316	179
4.5.2-30	Number of MSMEs, including farmers, receiving USG assistance to access loans	1,416	708	708
1.1.4	Total amount of financing (cash and in-kind) accessed by farmers and agri-businesses through formal, informal, and embedded services.	\$751,634	\$662,308	\$375,675

Indicator	Deliverables	FY15				
		Rice	Cassava	Veg	Goats	Agri-Input
4.5.2-13	Number of rural households benefiting directly from USG interventions	4,766	2,278	1,102	432	13
4.5.2-5	Number of farmers and others who have applied new technologies or management practices as a result of USG assistance	4,766	2,278	1,102	432	13
4.5.2-11	Number of private enterprises, producers organizations, women's groups, trade and business associations and community-based organizations (CBOs) receiving USG assistance	198	89	43	15	13
4.5.2-28	Number of private enterprises, producer organizations, women's groups, trade and business associations and community-based organizations (CBOs) that applied new technologies or management practices as a result of USG assistance	198	89	43	15	13
4.5.2-30	Number of MSMEs, including farmers, receiving USG assistance to access loans	1,004	324	75	0	13
1.1.4	Total amount of financing (cash and in-kind) accessed by farmers and agri-businesses through formal, informal, and embedded services.	\$508,087	\$128,668	\$67,308	\$14,421	\$33,150

D. FY15 Work Plan

I. Results Framework for Subtask 2.1

Constraint	Proposed Solution	Key Activities	Outcomes in FY15	Women and Youth Involvement
Farmers are not bankable	<p>Utilize VSLAs and MFIs with groups of farmers to help build records of saving and lending</p> <p>Provides platform for group formalization and for seeking formal credit</p> <p>Pilot embedded financing between buyers/processors and clusters of farmers</p>	<p>Continue and scale up VSLA program for farming clusters and link successful VSLAs to MFIs, banks, Central Bank for on-lending</p> <p>Assist successful groups with registration and pilot establishing VSLAs as micro-credit unions</p> <p>Assist LEAD MFI program to reach more farmers, expand to Lofa, pilot the use of ICT (mobile money) to decrease transaction costs</p> <p>Facilitate the delivery of embedded services and financing by buyers, processors and traders to farming clusters</p>	<p>250 VSLA groups supported and formed</p> <p>\$357,000 in VC financing to 7,075 farmers</p> <p>Facilitate \$200,000 in additional sales, \$750,000 in additional investment 2,000 new jobs</p> <p>Facilitate \$40,000 in embedded financing to 100 farmers via five businesses</p> <p>Three businesses receive \$179,000 financing from DCA banks to be used for embedded or trade financing</p>	<p>All new VSLAs will be established with women-only members</p> <p>Youth will be encouraged to participate in both VSLAs and in farming groups receiving loans from MFIs and embedded financing</p>
Micro-enterprises are	Utilize a combination of	Work with LEAD MFI program to scale up loans	\$175,000 in loans to 1,460 MSMEs,	Through USAID FED's gender

not bankable	cost-sharing and syndication (providing loans to MSMEs via MFIs and banks for beneficiary portion of cost-sharing)	made available to micro-enterprises for transportation, processing, and trading activities Include business training and USAID FED mentorship with LEAD programs For MSMEs who are more qualified, work with IBEX to package applications of for bank loans	including farmers Facilitate \$200,000 in additional sales, \$750,000 in additional investment and 2,000 new jobs	leadership program, encourage women-owned businesses in trading and processing to expand and to apply for loans USAID FED will engage youth to form micro-businesses, such as transportation, trading, and equipment rental
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2. Work Breakdown Structure for Subtask 2.1

Activity 2.1.1 Village Savings and Loan Expansion

USAID FED will scale up VSLAs with FY14 farming clusters to support additional liquidity to the farmers. The loans will be used for investment in farming businesses and for building skills and knowledge of saving and accessing credit. In FY15, the program will outsource the training and management of the program to a third-party business development service provider and pilot offering training services for a fee through the ESCs. FED will partner with UNCDF's Microlead to expand the VSLA methodology to reach more of FED's farmers. FED will link established and successful VSLAs with NAPEX in order to register and apply for additional funding from the Central Bank of Liberia. FED will source VSLAs from the existing Year 3 pool of farming clusters that have not received VSLA training and mentorship in Year 3 (approximately 250 new groups).

Task 2.1.1.1 RFP for VSLA NGO

Issue a Request for Proposal to find a local NGO to implement VSLA expansion program.

Task 2.1.1.2 Upgrade VSLA Curriculum and Order Materials

Work with the selected NGO to upgrade existing VSLA curriculum to include leadership, gender equality, nutrition messages, investing in agri-business, record-keeping, and accessing more formal finance topics. MDF will order all VSLA materials at this time as well.

Task 2.1.1.3 Recruitment and Training of CFOs and M&E

Recruit 50 Community-based Facilitation Officers (CFOs) across the program's counties to help implement VSLA training and capacity-building, and train monitoring and evaluation staff to help with collecting and reporting on VSLA data.

Task 2.1.1.4 Phase I, Awareness

NGO and CFOs visit VSLA communities to raise awareness and recruit VSLA membership.

Task 2.1.1.5 Phase II, Training

CFOs train VSLA members using USAID FED VSLA curriculum. The groups come up with Articles of Incorporation and elect leadership.

Task 2.1.1.6 Phase III, Saving, Lending, Capacity Building

VSLA members begin saving and lending. CFOs visit groups weekly and mentor them in record-keeping, conflict management, and once a month additional training on leadership concepts such as gender equality, nutrition, public speaking and strategic planning.

Task 2.1.1.7 Phase IV, Graduation and Share-out

The groups finish their first cycle of saving and lending, conduct an action audit and share out the proceeds of their activity with members.

Task 2.1.1.8 Application to NAPEX and CBL for Loans

For all FED VSLAs that have finished their first cycle, the NGO will assist the group to apply for membership with NAPEX and for loans from the Central Bank.

Task 2.1.1.9 Monitoring and reporting on ALL FED-sponsored VSLA Groups

Throughout the period, the NGO will be responsible for collecting and reporting VSLA, sales, and job data from groups in the six counties.

Activity 2.1.2 Pilot Micro-credit Union with VSLAs

Establish at least one pilot micro-credit union utilizing one of the program's most successful VSLA communities with Microlead, a project focused on revitalizing agricultural micro-credit unions in Liberia.

Task 2.1.2.1 Sign MoUs and Selection of VSLAs

USAID FED and Microlead sign a MoU and select VSLA groups for the pilot program.

Task 2.1.2.2 Set up Legal and Physical Structures

Work with Microlead to facilitate the legal structures for the VSLA groups.

Task 2.1.2.3 Training of Micro-credit Union Volunteers/Staff

Microlead will train micro-credit union volunteers and staff.

Task 2.1.2.4 Begin Micro-credit Union Operations

Activity 2.1.3: Extension of Micro Finance to Farmers and Entrepreneurs

Support the expansion of LEAD's operation to additional beneficiaries and in additional counties in the form of loan officer training, equipment and software upgrade, and transportation for loan officers.

Task 2.1.3.1 MoU and Order Equipment for LEAD

Sign MoU with LEAD and USADF and order motorcycles for LEAD's staff in their branches.

Task 2.1.3.2 STTA Training for LEAD Staff

Hire an STTA to deliver training to LEAD staff on Loan Performer.

Task 2.1.3.3 Recruitment of Farming Groups / MSMEs for Loans

Work with LEAD staff to recommend farming groups and MSMEs to LEAD for loans and look for other lending opportunities with other MFIs.

Task 2.1.3.4 Pilot Mobile Money for Disbursement and Collection

Select a few groups of returning borrowers to pilot the use of mobile money with LEAD to streamline loan disbursement and collection of cash.

Activity 2.1.4 Business Training and Mentorship to Access Finance

Partner with the IBEX project to conduct assessments for entrepreneurs, large commercial farmers and/or farming groups wishing to access formal financing through banks. If these entities are deemed eligible, IBEX will advise them on the requirements necessary to apply for a loan (e.g. financial records and short business plans). If training is needed, then FED will partner with IBEX to provide training and mentoring in record-keeping, applying for and utilizing loans, and marketing. FED will then help link these entities to appropriate markets while IBEX will help package them for accessing formal finance from banks. Where possible, these services will be offered for a fee through the ESCs.

Task 2.1.4.1 Selection of Farming Organizations / MSMEs

Select groups or individuals who are interested and ready to utilize financing to invest into farming or processing.

Task 2.1.4.2 Implementation of Capacity-Building Sessions

Activity 2.1.5 Pilot Embedded Financing

Pilot the use of embedded financing, utilizing formal contracts between buyers and farmers, in the rice and vegetable value chains with private sector entities that can pre-finance inputs, provide extension services, and marketing services for produce. Where needed, USAID FED will partner with IBEX to facilitate loans through banks with the DCA banks, Ecobank and IB, and Afriland bank. Anticipate creating Global Development Alliances with some entities to facilitate scaling up and accessing credit for embedded services. Hold seminars for those engaged in embedded financing (buyers, agro-dealers, farmers) in order to introduce concepts of pre-financing and establishing contracts with suppliers and creditors.

Task 2.1.5.1 Identify MSMEs

Identify aggregators and buyers willing to engage in contract-farming on a pilot scale with program farming clusters (e.g. ROSNA, Grain Coast, Inc., Fabrar Rice, Wienco, Go Buy Chop traders.)

Task 2.1.5.2 Apply for funding

Assist these MSMEs in applying for loans from DCA banks or MFIs.

Task 2.1.5.3 Set up Contracts / Train Farmers

Host training and negotiation sessions to facilitate negotiations for contracts between embedded service providers and the farming clusters.

Task 2.1.5.4 Implement Contracts

3. Mainstreaming Gender, Youth, ICT and Environmental Compliance

Establish all-women VSLAs in order to provide women with the dedicated space needed to take on leadership positions and acquire skills in record-keeping, saving, lending, investment decisions, and managing money. At the same time, the VSLA provides these women a platform from which to expand their own micro-business in agriculture, processing, aggregation, and trading.

The program will encourage youth to engage in extra-agriculture activities that are suitable for their skill-set, namely transportation, aggregation, and equipment rental services.

Pilot the use of ICT, namely mobile money, with LEAD in order to improve loan disbursement and loan repayment efficiency and to reduce transaction costs.

4. Geographical Plans

1. FY15 Summary of Financing Target from Efforts of Component One and Two

Total amount of financing (cash and in-kind) accessed by farmers and agribusinesses through formal, informal, and embedded services in USD.							
Value Chain	Total	Bong	Nimba	Lofa	Grand Bassa	Montserrado	Margibi
Rice	\$508,087	\$141,651	\$211,058	\$111,697	\$27,431	\$16,250	
Cassava	\$128,668	\$15,589	\$75,873	\$11,675	\$25,531		
Vegetables	\$67,308	\$1,989	\$2,764	\$2,351	\$6,630	\$29,411	\$24,162
Goats	\$14,421	\$1,173	\$9,724	\$1,234	\$2,290		
Agri Input	\$33,150	\$6,175	\$6,175	\$6,175	\$6,175	\$4,225	\$4,225
Total	\$751,634	\$166,577	\$305,595	\$133,132	\$68,057	\$49,866	\$28,387

5. Risk Analysis and Mitigation Plan

Deliverables	Target Completion	Responsibilities of	Risk	Mitigation
Generate value chain financing of US\$350,000 for 7,075 farmers through VSLAs	FY15	Access to Finance Officer / VSLA service provider	Farmers in VSLAs do not a) generate substantial savings and/or b) utilize loans for agriculture activities	Monitor progress of the VSLAs on a monthly basis via the hired business service provider (BSP) and analyze source of issues Include in basic training/mentorship package farming as a

				<p>business and investing in agri-business piloted in FY14</p> <p>Host visits by successful VSLA members to groups having issues</p>
Assist up to 50 VSLAs in registering with NAPEX and apply for loans	FY15	Access to Finance Officer / VSLA NGO / NAPEX	<p>Farmers registered with NAPEX are not guaranteed loans from the Central Bank</p> <p>Lack of motivation to register</p>	<p>Highlight the risk to the groups applying for loans</p> <p>Encourage only the strongest VSLA groups to apply in areas where the Central Bank has funds for loans</p>
Assist with piloting at least one VSLA by forming a micro-credit union in partnership with Microlead	FY15	Access to Finance Officer / Microlead	<p>Mismanagement of micro-credit funds by micro-credit managers</p> <p>Difficulty finding qualified personnel and training local personnel to properly manage/operate the credit union in financial management, monitoring, reporting, controlling moral hazards</p>	<p>During initial stages, limit funds used for lending to shares purchased by members to ensure accountability</p> <p>Train managers who are part of the VSLAs</p> <p>Form the pilot micro-credit union with the most successful VSLAs that have managed to multiply VSLA groups within the same community, to ensure accountability</p> <p>Partner closely with Microlead and defer to them for expert technical assistance for training and mentorship</p>
Generate value chain financing of US\$237,000 for 1,416 MSMEs and farming clusters through MFIs	FY15	Access to Finance Officer / LEAD	<p>With limited staff, LEAD may not be able to successfully originate and monitor the volume (158 additional groups)</p> <p>Farmers receiving</p>	<p>Continue to monitor LEAD's performance in conjunction with USADF and make recommendations for improvement in organization operations and structure</p>

			loans from MFIs do not generate enough income to repay loans to MFI	<p>Plan with the farmers before they plant to ensure they have a market and they understand the acceptable sales price</p> <p>Monitor progress of field during production and be prepared to provide technical assistance if crops are not doing well</p> <p>Extend loans and mentor farmers to find a way to make crop selection more profitable</p>
<p>Generate value chain financing of US\$40,000 for farming clusters through embedded financing via bankable MSMEs</p> <p>MSMEs access financing of US\$179,000 through DCA Banks</p>	FY15	Access to Finance Officer / IBEX	<p>Selected entrepreneurs may not qualify for formal financing from banks</p> <p>DCA bank terms offered may not be viable for MSMEs (e.g., 12-month terms at a 13-percent interest rate)</p>	Explore funding through other sources of funds outside of DCA banks, such as Root Capital, West Africa Venture Capital
<p>Generate US\$750,000 in investment, US\$300,000 in sales and 2,000 jobs</p>	FY15	Access to Finance Officer	Farmers in VSLAs do not a) generate substantial savings and/or b) utilize loans for agriculture activities.	<p>Monitor progress of the VSLAs on a monthly basis via the hired business service provider and analyze source of issues</p> <p>Include in basic training/mentorship package farming as a business and investing in agri-business piloted in FY14</p> <p>Host visits by successful VSLA members to those groups having issues</p>

6. Partners

LEAD: Liberian microfinance institution that pilots short-term loans for program farmers. Due to the success of LEAD's agriculture portfolio with USAID FED, LEAD will expand its loan portfolio by US\$237,000 in FY15. LEAD also specializes in business training and mentorship.

USADF: US Africa Development Foundation provided US\$242,000 in funding over the past year and will continue to provide loans for program groups. USADF also analyzes the profitability and sustainability of LEAD's expansion of its agriculture loan pool. In Year 4, FED will work with USADF to help monitor and mentor LEAD's implementation of the additional grant of US\$237,000 for on-lending to the agriculture sector.

IBEX: USAID-funded economic growth program that collaborates with USAID FED in developing and implementing training for MSMEs on how to invest in agriculture and how to seek formal financing from banks and MFIs that can be used for on-lending to their members. In FY15, USAID FED will continue to collaborate with IBEX, linking them to MSMEs qualified to apply for loans from DCA banks, especially those businesses eligible to participate in embedded services.

The Central Bank and NAPEX: The Central Bank set up the National Association of Village Savings and Loan Association to vet loan applications on behalf of the bank and to provide a network of advisory and training services for independent VSLAs. In FY15, FED will advise all graduated VSLAs on how to apply for loans through NAPEX and the Central Bank. In addition, the program may work with NAPEX to improve their corporate governance.

Microlead: UN Capital Development Fund project that focuses on establishing formal rural-based micro-credit unions for the agriculture sector. In FY14, FED will partner with Microlead in reaching out to more farming groups via VSLAs (100-percent increase target) and in piloting more established VSLAs as micro-credit unions.

Subtask 2.2: Access to Business Development Support (BDS) Services and Enterprise Service Centers

A. The Challenge

The following factors illustrate the struggles experienced by Liberia's business environment:

- Out of 7,916 registered for-profit businesses in Liberia, 134 are related to the agriculture sector (1.69 percent), yet agriculture represents over 70 percent of Liberia's Gross Domestic Product and employs 70 percent of the workforce
- Most businesses are 'micro', with over 50 percent employing four employees or less
- Less than 30 percent of businesses are able to access formal financing through the banking sector
- The majority of businesses (71 percent) report they have not had business training⁴⁸
- 40 percent of agri-business keep formal records and of those, 80 percent keep only basic records (a ledger with sales and expenses)

⁴⁸ "Upward Mobile: An Overview of the Liberian Economy" (Building Markets, July 2013)

- 92 percent of agri-businesses say they can afford no more than US\$50 per day to pay for professional business development services
- 30 percent of agri-businesses have banking accounts while 93 percent say they are in need of financing.⁴⁹

As the agriculture sector in Liberia transitions from subsistence farming to farming as a business, value chain players — farmers and agri-businesses — will need assistance in business development. First and foremost, farmers and entrepreneurs lack knowledge of and practice in good record-keeping or business planning. Therefore, business decisions are not being made based on adequate analysis of market opportunities and feasibility of investments. Farmers and micro-businesses do not have the information and knowledge about the requirements for accessing formal financing, options for accessing informal financing, and how to responsibly utilize savings and loans to leverage investments.

Secondly, farmers are in need of access to mechanization in order to reduce production costs, yet there are no formal equipment rental services available in Liberia. Finally, there is a lack of access to market information (prices, road conditions, transportation costs, changes in demand); the flow of information between farmers and market channels is constrained or in some cases, non-existent. As a result, farmers make choices about what and when to plant that are not based on market requirements. This, in turn, causes the market to experience large swings in surpluses and deficits of supply, which result in farmers and traders suffering losses.

Currently, donors hire NGOs and business service providers (BSPs) to offer business development services to beneficiaries for free. The model has a limited reach due to limited budgets of donors and is not sustainable. There are no business development services offered for a fee in the rural areas, though there are a few in the Monrovia area⁵⁰. Agri-businesses must depend on donors in their area or travel to Monrovia to seek service or advice.

In addition, rural farmers and micro-businesses cannot afford to pay for business services, and due to poor road conditions it is often difficult to travel to major cities in the counties. In addition, there is a dearth of qualified business service providers in Liberia who have adequate experience in successful operations of agri-businesses. For the time being, this service is being provided by international and regional consultants.

B. USAID FED LOP Objectives and Status

I. LOP Objectives/Targets

USAID FED's mandate is to establish five Enterprise Service Centers (ESCs) — four in the core counties and one in Monrovia — to support the growth of new businesses and the formalization of SMEs. Ideally, these hubs will use a self-sustaining, fee-for-service business model in providing business advisory services and marketing outlets. Toward this end, these hubs will help 'incubate' new businesses by

⁴⁹ "Stakeholder Profile Survey" (Subah Belleh Associates, 2013)

⁵⁰ The Marketplace, Educare, BSC Monrovia offer business development services, business training, and business incubation in their centers. These are partially subsidized.

providing technical assistance, access to market information, access to credit, access to office space/equipment for rental and other services to help SMEs grow. However, with the very low level of development of enterprises in agriculture in Liberia, it is unlikely that these enterprises will be able to pay for business development support services. Potential providers of business advisory services thrive on businesses derived from donor-funded projects.

- Establish five Enterprise Service Centers
- At least 800 MSMEs supported by Enterprise Service Centers

USAID FED will endeavor to fulfill its mandate of establishing and nurturing ESCs, but will modify the concept to adapt to the realities in Liberia. The program, in partnership with several local organizations, has already provided business development support services to over 2000 micro-and-small enterprises, farmer organizations and civil society organizations. However, none of the local NGOs subcontracted by USAID FED provided all of the BDS, or served as a one-stop shop for BDS, which is envisioned as the role of an ESC.

2. Milestones in FY14

2.1 Identification of ESC partners

Three partners were identified to establish ESCs in the counties through a Request for Expression of Interest (REOI):

1. Grand Bassa - Community Youth Network Program (CYNP)
2. Bong - Green Coast Agricultural Program (G-CAP)
3. Lofa - Jacob F. Tomei Enterprise

All three partners were assisted by the Senior Business and Capacity Development Expert in developing business plans for the self-sustaining operation of their respective ESCs.

2.2 Business Registration

Sixteen agri-businesses and farming organizations were registered in the four counties with the help of county extension staff.

2.3 Business Development Services

2,193 MSMEs including farmers received business development support services.

2.4 Improved Management Practices

1,396 private enterprises, producer organizations, women's groups, trade and business associations and community-based organizations (CBOs) applied new management practices, as a result of USAID FED assistance.

3. Major Challenges in Programmatic Implementation and Lessons Learned

USAID FED's original vision was to establish private-sector ESCs "near or at the location" of public-sector supported community colleges to allow ESCs to easily collaborate with program-supported Centers of Excellence. It became clear, though, from several strategic planning workshops held with both the community colleges and with the prospective ESC partners that the community colleges were not prepared or interested in operating or co-locating with ESCs on their campuses. Technical consultant, Ernest Musinamwana stated in his final report in Q4 of FY14:

“The community colleges lack the expertise, orientation and systems required to operate enterprise centers. There is a general lack of entrepreneurial culture as college administration is pre-occupied with building a working academic model. Moreover, commercial and community services provision constitutes a distant priority for colleges as the current focus is on attracting social investors who can bring in patient capital to develop the basic infrastructure which is needed to create a firm foundation for the institutions.”

There were no proposals submitted for the establishment of an ESC in Nimba. There was neither an effort to find partners in Montserrado or Margibi counties, nor to find BSPs for the Monrovia-based ESC. As a result, FED had to issue a second REol in August 2014 to find prospective partners in these two areas.

Second, since project inception, USAID FED has identified and worked with numerous service providers located in the counties that are skilled in providing agriculture services (extension services and equipment operation) and business development services. However, the program has not yet found service providers that are experienced and knowledgeable in both. This was the case with the three service providers identified in FY14 for the ESC program.

While these businesses have plenty of agriculture experience, they have no prior experience delivering business development support (BDS) services and they lack knowledge on how to manage and strategically plan for their own operations. USAID FED took additional time to train and mentor the three BSPs to conduct market studies and produce business plans to expand and transform their businesses to include these services. Based on this initial experience and from feedback from those BSPs, it is apparent that any service provider selected in the future to provide BDS on behalf of USAID FED will require substantial mentoring and coaching from an expert for their own businesses.

Furthermore, USAID FED had originally offered to cover up to 85 percent of the initial investment and up to 50 percent of the first year’s operating costs for ESC partners. While the three BSPs all have positive cash flows and some assets, they were struggling to come up with their portion of the cost-share. It is highly unlikely that these BSPs could secure loans for the remaining portion on amenable terms, especially since first-year cash flows will be strained. Based on these findings, FED will approach the provision of BDS through service providers in a completely different manner (see Approach in FY15 below.)

Because of the delay in establishing the ESCs in the counties, the program planned to pilot the provision of mobile training forums in the counties aimed at reaching a minimum of 50 MSMEs in August and September 2014. However, due to the Ebola crisis, USAID FED was unable to carry out this activity.

Finally, USAID FED was approached by USAID’s Investing for Business Expansion (IBEX) and the National Investment Commission (NIC) Project Implementation Unit to fund the market study, business plan and initial operation of the National Business Development and Advisory Center (NBDAC) to be located in Monrovia. USAID FED will ultimately provide support to the group to set up an agriculture desk at the NBCAC. However, due to compliance issues and differences in strategies for this initial

project, FED was not able to provide funding. FED will move forward with establishing a Monrovia-based ESC, which can later be integrated or referred to by the NBDAC.

C. Approach to Achieve LOP Targets/Objectives and FY15 Objectives

I. Strategy for FY15 and FY16

In FY15, FED will partner with at least five existing private sector agriculture service providers to provide basic business development services to farmers and agri-businesses in the six operational counties. USAID FED will first train pre-qualified service providers in business management and strategic planning for their own businesses and then train other farmers and agri-businesses in business start-up, management and planning, and farming as a business.

Second, FED will hire trained BSPs to deliver extension services to program beneficiaries and BDS support. Services delivered will include farming as a business for farmers and business start-up for micro enterprises. Business start-up services will include business registration, opening bank accounts, setting up financial record keeping systems, and developing basic business plans. These BSPs will be tasked with working with businesses such as processors, aggregators, transportation companies, and equipment operators identified for value chain activities.

Partners selected and trained in FY14 — CYNP, G-CAP, and Jacob F. Tomei Enterprise — will be among those considered to deliver these services to at least 250 micro-enterprises and farming organizations.

In FY16, USAID FED will work to expand the service offerings of these partner BSPs and transform them into Enterprise Service Centers (ESCs). Service offerings could potentially include market information and mechanisms to link agro-enterprises to ancillary businesses such as repair and maintenance of equipment, legal advice, financing and other similar services through a referral system. USAID FED will also support the promotion and advertising of the services of these ESCs via radio programs. Additionally, FED will help develop the capacity of these ESCs to write proposals for grants to support their BDS mandate and link them to potential donors interested in continuing their support for the growth of private enterprises in the agriculture sector.

2. FY15 Anticipated Achievements

- USAID FED will develop five Business Service Providers to support a minimum of 250 MSMEs and 18,935 farmers, and register a minimum of 50 new MSMEs.
- At least five partners selected as Business Service Providers (BSPs) in business management and strategic planning for their own businesses and then in training other farmers and agri-businesses in business start-up, management and planning, and farming as a business.
- BSPs begin providing training and services to at least 50 each MSMEs and farming clusters as part of their deliverables.
- Arrangement made with MoCI/Liberian Business Registry (LBR) on the role of BSPs in facilitating registration of MSMEs.
- Mentor BSPs in improving their own business models, effective delivery of business development

services, and expanding their service offerings.

3. FY15 Indicators and Targets

Indicator	Deliverables	FY15		
		Total	Women	Youth
4.5.2-28	Number of private enterprises, producer organizations, women's groups, trade and business associations and community-based-organizations (CBOs) that applied new technologies or management practices as a result of USG assistance	250	113	138
4.5.2-37	Number of MSMEs, including farmers, receiving business development services from USG-assisted sources	19,185	9,336	8,658
4.5.2-43	Number of firms (excluding farms) or Civil Society Organizations (CSOs) engaged in agricultural and food security-related manufacturing and services now operating more profitably (at or above cost) because of USG assistance	250	113	138
	Number of registered businesses	50	22	28

D. FY15 Work Plan

I. Results Framework for Subtask 2.2

Constraint	Proposed Solution	Key Activities	Outcomes in FY15	Women and Youth Involvement
Farmers and micro-enterprises lack access to business development services that would enable them to improve profitability (lack of record-keeping, market information, knowledge on accessing finance)	Provide mobile business training and mentorship through 'virtual' fee-for service Enterprise Service Centers	<p>Train BSPs in five locations to improve their business models and to deliver business development services</p> <p>BSPs deliver mobile business development services in counties for farmers and agri-businesses</p>	<p>Five BSPs established, five PPPs signed</p> <p>250 MSMEs and 18,935 farmers receive business development services and improve their management practices</p> <p>At least 50 new MSMEs created and registered</p> <p>Established arrangement with MoCI/LBR for business registration facilitation</p>	All training will include concepts of gender equality and will be gender-sensitive.

Farmers and micro-enterprises lack access to agricultural services (e.g., transportation, equipment rental) and linkages between suppliers/buyers	Use BSP as a platform to help build micro-businesses that provide agriculture services	Provide start-up business services to entrepreneurs to start micro-businesses	50 new MSMEs created and operating profitably	Youth are encouraged to participate in micro-business start-up programs in transportation and equipment rental Women groups are encouraged to start processing and aggregation businesses
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2. Work Breakdown Structure for Subtask 2.2

Activity 2.2.1 Develop Five Business Service Providers

Task 2.2.1.1 Train Business Service Providers

Select and hire a local business service provider experienced in providing business management, planning, and farming as a business trainings that will partner up to develop curriculum and train pre-qualified service providers in the counties.

Task 2.2.1.2 Hire Business Service Providers to Deliver Business Development Services

Release RFP to pre-qualified and trained business service providers to provide BDS to farmers and selected businesses, including farming as a business for farmers and business start-up for micro enterprises. Business start-up services include business registration, opening bank accounts, setting up financial record-keeping systems, and developing basic business plans. Encourage the BSPs to work with businesses in supporting the upgrading of the value chains, i.e., processors, aggregators, transportation companies, and equipment operators. Getting 50 new MSMEs registered as businesses will be part of the contract of these BSPs.

Task 2.2.1.3 Hire Consultant to Mentor Business Service Providers

Hire a consultant to work with service providers in improving their business models, delivering business development services to program beneficiaries, expanding future service offerings including proposal writing.

3. Mainstreaming Gender, Youth and ICT and Environmental Compliance

- FED will work with the BSPs to ensure that their respective staffs are trained in recruitment and training practices that are gender-sensitive. FED will also work with the BSPs to ensure that all training materials will include concepts of gender equality and will be gender-sensitive. In

addition, FED will encourage the BSPs to develop relationships with the country-based Ministry of Gender officers and networks.

- FED will encourage youth to engage in the micro-enterprise set-up services that the ESCs provide that are more suitable for their skill-set, namely transportation and equipment rental services.

4. Geographic Plans

Indicator	Deliverables	FY15					
		Total	Bong	Nimba	Lofa	Grand Bassa	Mont / Margibi
4.5.2-28	Number of private enterprises, producer organizations, women's groups, trade and business associations and community-based-organizations (CBOs) that applied new technologies or management practices as a result of USG assistance	250	50	50	50	50	50
4.5.2-37	Number of MSMEs, including farmers, receiving business development services from USG-assisted sources	19,185	4,503	7,496	2,780	3,138	1,269
4.5.2-43	Number of firms (excluding farms) or Civil Society Organizations (CSOs) engaged in agricultural and food security-related manufacturing and services now operating more profitably (at or above cost) because of USG assistance	250	50	50	50	50	50
	Number of registered businesses	50	10	10	10	10	10

5. Risk Analysis and Mitigation Plan

Deliverable	Target Completion	Responsible Staff	Risk	Mitigation
Develop five Business Service Providers	FY15	BDS Officer, Ent. Dev. Specialist	BSPs lack experience in giving business advice to micro-entrepreneurs and farmers	Program staff will mentor BSP staff Hire a consultant to mentor with selected BSP
At least 250 MSMEs and 18,935 farmers supported by Enterprise Service Centers	FY15	BDS Officer, Ent. Dev. Specialist	There are not enough agri-business MSMEs in each county to assist in the first year to reach 50 per county	Program links micro-enterprises (processors, transport companies, equipment rental) in need of BDS to the BSP.
At least 50 new businesses are registered and operating with improved profitability	FY15	BDS Officer, Ent. Dev. Specialist	There are not enough agri-business MSMEs in each county to register	Make business registration a deliverable for payment for each BSP

6. Partners

Community Youth Network Program (CYNP): Liberian youth-focused NGO CYNP has developed the Young Farmer's Resource Center in Bensonville, where it has trained over 600 youth in agriculture best practices in vegetable, cassava and livestock production. As a result of its work with USAID FED in FY14, CYNP has legally registered a subsidiary, for-profit social enterprise, CYNP Inc. that will function as the ESC in Grand Bassa County.

Green Coast Agricultural Program (G-CAP): Liberian NGO for young professionals works to build young farmers' capacity in modern agricultural, vocational skills and sustainable livelihood activities for self-reliance and economic empowerment, through hands-on training. G-CAP will function as the ESC in Bong County.

Jacob F. Tomei Enterprise: Private business provides local farmers around Lofa County with services such as power tillers, training on rice and cassava processing, and transportation of agricultural raw materials. The entity has a network of 35 trained and qualified power tiller operators. As a result of its work with FED in FY14, the center has legally registered as a corporation and will function as the ESC in Lofa County.

Subtask 2.3: Women Participation in Agribusiness

A. The Challenge

Women play a key role in Liberia's agriculture sector. They provide 80 percent of agricultural labor, conduct 85 percent of marketing and trading activities and are involved in 93 percent of value-added crop production. In terms of participation in agro-processing activities, women outnumber men, two-to-one. They carry out a higher proportion of the trade in rural areas, and women-dominated networks play an important role in linking rural and urban areas.

Nonetheless, Liberian women face cultural and structural constraints that limit their ability to equally partake in agriculture economic activities. First, women experience physical barriers to conduct strenuous tasks, such as clearing, felling, and operation of transport and heavy agricultural equipment. For unmarried or widowed women who do not have men in their family, this limits their ability to independently build their businesses.

Second, war and poverty have prevented adults from attending traditional schools and the problem is especially prevalent among women. Compared to their male counterparts, women have lower technical and business skills and experience. The illiteracy rate of Liberian women and girls is extremely high especially in rural areas. In addition, while there are high-level examples of women taking on important leadership roles in Liberian politics, few women in rural agricultural communities take on leadership roles due to household work levels and gender norms. Women also lack decision-making power over resources, income, and access to credit.

Finally, women in rural areas do not have strong social and business networks because they lack strong social relationships outside the household, and are not connected with broader established group organizations. Taken together, gender-related constraints have a negative impact on women's productive capacity in agriculture and, consequently, on the nutritional well-being of Liberia's citizens.⁵¹

B. USAID FED LOP Objectives and Status

I. LOP Objectives and Targets

USAID FED's mandate is to ensure that women have equal access to critically needed extension services, small capital and micro-finance, land, technical assistance and access to equipment for processing. The program must be especially careful not to perpetuate gender stereotypes or introduce new gender biases in its programming. Ideally women working in USAID FED's four value chains will have improved capacity to take on leadership roles, improved economic wealth in agriculture activities, and improved empowerment (decision-making authority and control over assets) in the household and in their work settings in agriculture.

- Ensure that at least 50 percent of FED beneficiaries are women
- Ensure at least 20 percent of FED-supported micro-small-and-medium-sized enterprises are women-owned or managed
- All-women VSLA groups are formed and provided with leadership and business skills training

2. Milestones in FY14

- Conducted gender awareness and equality training for 25 VSLA trainers, 51 lead farmers, and 39 FED extension workers
- Conducted leadership and business training for 106 women business owners and group leaders that covered topics such as leadership, gender equality, effective communication and negotiation, and public speaking
- Achieved 46-percent female participation in all program activities
- Established 123 mostly all-women VSLAs in the six counties

3. Major Challenges in Programmatic Implementation and Lessons Learned

Many women engaged in the VSLA programs were illiterate, though it was necessary for at least one of the members to record all of the VSLA activities. In some cases, the groups were forced to admit men into the group to help with this responsibility. The situation highlighted the challenge faced by women attempting to engage in formal business opportunities. As a result, USAID FED will pilot the use of basic literacy and numeracy with new VSLA groups in FY15.

⁵¹ The Women Empowerment in Agriculture Index (WEAI) for Liberia conducted by USAID in July 2013 as part of the *Feed the Future Population-based Survey* found that women are not empowered in the following areas: input and autonomy regarding production decisions, ownership and decision making over assets, access to and decision-making concerning credit, access to group membership, and control over workload. In addition, while women are empowered in the following areas, they are not as equally empowered as their male counterparts: control over use of income and speaking in public.

Due to the Ebola crisis, USAID FED was unable to complete the last two training sessions and the mentorship phase of the Leadership and Business Incubation program, which covered strategic planning and goal-setting, record-keeping, and business registration. It was therefore difficult to measure how much knowledge the women applied from these training sessions. Sessions and mentorship will be completed within Q1 of FY15.

C. Approach to Achieve LOP Targets/Objectives and FY15 Objectives

I. Strategy for FY15 and FY16

In FY15, the program will ensure that women in communities have equal opportunity to participate in USAID FED activities. USAID FED will first conduct a special study to gather a baseline of women empowerment and agriculture economic wealth. To further build women's capacity in record-keeping, saving and lending, the program will expand the VSLA program and maintain the women-only rule. VSLA curriculum will be upgraded to include some of the training topics from the Women Leadership and Business Incubation program as well as best practices in investing in agriculture and utilizing loans.

For those women who participated in the FY14 leadership training activities and show dedication and promise for expanding and improving their agri-businesses, USAID FED will continue to mentor and guide them toward their goals. All women engaged in VSLA and Leadership and Business Incubation program will be encouraged to network with women within the Rural Women's Network.

In FY16, the program will build on the successes and lessons learned from the FY15 pilot. Advances to the next level should include the following:

- All-women VSLAs grow membership and/or formalize into micro-credit unions, accessing additional funds for on-lending from more formal sources, such as banks, MFIs and the Central Bank of Liberia;
- FED-supported, women-owned micro- businesses expand with additional employees, improved sales and income, increased assets, and/or access to more formalized financing through banks and MFIs.
- Women in FED-supported communities take on more leadership roles, have more decision-making power within their household pertaining to agriculture production, investment, and accessing credit.

2. FY15 Anticipated Achievements

LOP Target Objectives

Ensure that at least 50 percent of FED beneficiaries are women; Ensure at least 20 percent of FED-supported MSMEs are women-owned or managed; All-female VSLA groups are formed and provided with leadership training.

FY15 Objectives

- Conduct gender baseline study to include areas not covered by the Liberia Women Empowerment in Agriculture Index (WEAI)
- Continue to establish, mentor, and monitor women-only VSLAs with FED-supported farming clusters (see section 2.2, Access to Credit)
- Mentor at least 25 women-owned businesses and/or leaders to improve/expand their businesses in business incubation program.

3. FY15 Indicators and Targets

Note: Indicators related to VSLAs and value chain financing are counted under Subtask 2.1 (Access to Credit)				
Indicator	Deliverables	FY15		
		Total	Women	Youth
4.5.2-13	Number of rural households benefiting directly from USG interventions	25	25	12
4.5.2-5	Number of farmers and others who have applied new technologies or management practices as a result of USG assistance	25	25	12
4.5.2-11	Number of private enterprises, producers organizations, women's groups, trade and business associations and community-based organizations (CBOs) receiving USG assistance	25	25	12
4.5.2-28	Number of private enterprises, producer organizations, women's groups, trade and business associations and community-based-organizations (CBOs) that applied new technologies or management practices as a result of USG assistance	25	25	12

D. FY15 Work Plan

I. Results Framework for Subtask 2.4

Constraint	Proposes Solution	Key Activities	Outcomes in FY15	Women and Youth Involvement

Women lack the ability to conduct strenuous tasks, lack access to labor and advanced equipment	Improve women's access to capital via VSLAs, MFIs, and embedded financing that will allow them to hire labor, transportation and equipment	<p>Scale up women-only VSLA program for farming clusters</p> <p>Link successful VSLAs to MFIs, banks, Central Bank for on-lending</p> <p>Assist successful groups with registration and pilot establishing VSLAs as micro-credit unions</p> <p>Assist LEAD MFI program to scale up to reach more farmers and expand to Lofa</p> <p>Facilitate the delivery of embedded services and financing by buyers/processors/traders to farming clusters.</p>	<p>250 new VSLA groups formed and 123 VSLA groups supported</p> <p>\$357,000 in VC financing to 7,075 farmers, mostly women</p> <p>Facilitate \$300,000 in additional sales, \$750,000 in additional investment and 2,000 new jobs</p> <p>Facilitate \$40,000 in embedded financing to 100 farmers</p>	<p>All new VSLAs will be established with women-only members</p> <p>Youth will be encouraged to participate in both VSLAs and in farming groups receiving loans from MFIs and embedded financing</p>
Women lack capacity in leadership, business skills, and literacy and lack empowerment in the household (decision-making, asset control, and access to credit)	<p>Build rural women's capacity and confidence via women-only VSLAs</p> <p>Build more advanced women's capacity via targeted mentorship programs</p> <p>Link women to women-only networks and agriculture civil society organizations</p>	<p>Upgrade VSLA program to include topics such as leadership, business skills, investing in agriculture, utilizing and accessing loans, and networking</p> <p>Develop mentorship program for women successfully completing the FY14 Women in Leadership program</p> <p>Link women in VSLA and mentorship program with Rural Women Network and register VSLAs with NAPEX.</p>	<p>4,875 women improve their management practices</p> <p>At least 25 women-owned businesses will improve one aspect of their business (expansion, number of employees, improved profit, accessing credit)</p>	<p>All new VSLAs will be established with women-only members</p> <p>Youth will be encouraged to participate in both VSLAs and in farming groups receiving loans from MFIs and embedded financing</p>

2. Work Breakdown Structure for Subtask 2.3

(See Section 2.2 Access to Credit for VSLA Activity)

Activity 2.3.1 Gender Baseline Study

Following the Women Empowerment in Agriculture Index (WEAI) model, FED will conduct a gender baseline study to establish a set of information on the social and economic status of women currently

working in agriculture, specifically in the four food crop sector value chains that USAID FED supports. The baseline data will be used to assess what impact, if any, program activities have made on the targeted beneficiaries, taking into account the program objectives.

Task 2.3.1.1 Hire M&E Specialist STTA (to be conducted under M&E)

Task 2.3.1.2 Create survey tool, hire and train enumerators

Task 2.3.1.3 Implement and monitor data collection

Task 2.3.1.4 Conduct analysis and report of findings

Activity 2.3.2 Women Business Incubation

Task 2.3.2.1 Conduct Final Phase of Women Leadership Training

Conduct the final phases of training for the 106 women participating in the FY14 Women in Leadership and Business Incubation. As part of graduation, women will be required to produce their business profiles, inclusive of vision and mission statements, goals, action plans, and timelines to achieve those goals

Task 2.3.2.2 Pilot Business Incubation

Pilot business incubation for 25 of the 106 FY14 Women in Leadership training participants based on business proposals and performance during the training. Hire STTA to mentor the women over a 90-day period.

Task 2.3.2.3 Cost-share for Women Processors in Peanuts and Cowpeas

Cost-share equipment and start-up costs with up to 10 women businesses out of the 50 selected for processing and marketing of peanuts and cowpeas.

3. Mainstreaming Gender, Youth, ICT and Environmental Compliance

This section is not applicable.

4. Geographic Plans

Indicator	Deliverables	Total	Bong	Nimba	Lofa	Grand Bassa	Mont./ Margibi
4.5.2-13	Number of rural households benefiting directly from USG interventions	25	5	5	5	5	5
4.5.2-5	Number of farmers and others who have applied new technologies or management practices as a result of USG assistance	25	5	5	5	5	5
4.5.2-11	Number of private enterprises, producers organizations, women's	25	5	5	5	5	5

	groups, trade and business associations and community-based organizations (CBOs) receiving USG assistance						
4.5.2-28	Number of private enterprises, producer organizations, women's groups, trade and business associations and community-based organizations (CBOs) that applied new technologies or management practices as a result of USG assistance	25	5	5	5	5	5

5. Risk Analysis and Mitigation Plan

Deliverable	Target Completion	Responsible Staff	Risk	Mitigation
Conduct gender baseline study to include areas not covered by Liberia WEAI	FY15	M&E MTTA, NGO	Difficulty in recruiting M&E expert to physically visit Liberia to assist with this project	Seek approval to provide remote support for survey development, data interpretation, and report writing
Mentor at least 25 women-owned businesses and/or leaders improve/expand their businesses in business incubation program	FY15	MTTA, Women Enterprise Development Specialist	FED may experience difficulty in recruiting MTTA to physically visit Liberia to assist with this project	Seek approval to provide remote support for survey development, data interpretation, and report writing

6. Partners

Angie Brooks Foundation: Liberian non-profit organization that has a history of working with women and recently opened a training center for women in Suakoko, Bong County on the Cuttington University campus. The foundation works with the Rural Women Structure, a network of female leaders set up by the Ministry of Gender. USAID FED will explore the possibility of a partnership to set up a network of mentors for program-sponsored businesswomen via the ESCs.

COMPONENT THREE: BUILDING LOCAL TECHNICAL AND MANAGERIAL HUMAN RESOURCE CAPACITY

Task 3: Develop Existing Vocational Centers into Centers of Excellence

A. The Challenge

Poverty reduction, growth in employment and food security cannot be achieved without private sector growth. The country's poorly skilled and under-educated workforce severely limits the growth and competitiveness of Liberia's private sector. This limits the participation of the vast majority of the workforce in the formal job sector and undermines the country's competitiveness.

A major reason for the lack of technical and managerial skills in Liberia is low access to good quality educational programs in agricultural technical skills development. The few vocational institutions that exist are limited in offering agricultural skills development training.

The vocational institutions that offer agriculture training have no standardized curriculum for vocational agricultural education. In general, the courses are not designed for vocational education, and instructors are insufficient and have not received training on how to deliver vocational agricultural education. These institutions are unable to attract quality instructors because they cannot offer commensurate remunerations. Furthermore, they lack appropriate equipment and facilities and access to reference materials in agriculture.

All the above problems are the result of insufficient funds. The institutions' budget relies almost exclusively on government support, which is extremely poor. They have very limited sources of income because they are unable to tap other sources of funding. The institutions have land resources, but lack the capacity to develop and manage any agriculture or non-agriculture enterprise in a profitable way. Furthermore, revenue generation is not part of the strategic plan.

B. USAID FED LOP Objectives and Status

I. LOP Objectives and Targets

USAID FED's mandate is to develop the Booker Washington Institute (BWI) and the Community Colleges in Nimba (NCCC), Grand Bassa (GBCC) and Lofa (LCCC) counties into Centers of Excellence (CoE) in Vocational Agricultural Education. A Center of Excellence in Vocational Agricultural Education will have the following:

- Standardized curriculum that is recognized in Liberia as well as the ECOWAS member states, and that prepares students for immediate employment after graduation either as entrepreneurs or as skilled workers in agri-businesses. The curriculum offers more practical than theoretical learning and is relevant to the needs of Liberia's agriculture sector.
- Syllabi and lesson plans, which are developed, harmonized and aligned with the courses in the standardized curriculum.
- Sufficient instructors with the technical expertise and capability to deliver the standardized curriculum.

- Libraries that contain requisite textbooks and sufficient reference materials to support the standardized curriculum; managed by a trained librarian, and renovated to be conducive to learning.
- Basic agriculture science laboratories in place, including soil testing.
- Occupational work experience or internships with agri-businesses embedded in its academic program; offers career service resources and counseling to provide information on opportunities in agriculture.
- Sufficient funds and an effective financial system to efficiently manage its funds with controls in place to ensure funds are used properly and prudently to support sustainable operations of the CoE for Vocational Education in Agriculture.

USAID FED aims to reach 2,000 students through the improved academic facilities and curriculum by the end of the project.

2. Milestones in FY14

2.1 The National Diploma in Agriculture (NDA) Curriculum

- Completed the syllabi and lesson plans for the 14 courses of Year One of the NDA curriculum.
- Identified instructors at all CoEs for the development of the remaining syllabi and lesson plans for the NDA Year Two courses, which is planned for Q3 of FY15.
- Made a total of 22 Agriculture instructors (20 males, 2 females) available to teach the NDA at the CoEs: LCCC 9, NCCC 3, GBCC 4, and BWI 6.

2.2 Upgrading of Library and Agriculture Departments

- Distributed 104 sets of textbooks (three books per set) to all four CoEs. USAID FED then added an additional 19 textbooks, which were initially used to develop the syllabi and lesson plans of NDA's Year One, second semester courses.
- Procured an additional 320 textbooks and reference materials that were identified in consultation with instructors from the CoEs.
- Began design of a Flash webpage to be used by CoEs to support the libraries. The digital library will house copies of reference and instructional materials, publications, fact sheets, videos, photos, graphics as well as other documents on a CD or flash-drive. These materials will be available off-line ensuring access with or without the internet.
- Booker Washington Institute (BWI): Provided internet services for a period of one year, which ended in October 2013. An additional six months of support have been agreed upon once BWI comes up with a plan on how to support the maintenance of the service after USAID FED support ends.
- Nimba County Community College (NCCC): Provided 13 desktops and four laptop computers to NCCC along with three projectors, one large screen, air conditioners and office furniture. The installation of the V-SAT internet networking equipment was also completed at the library.
- Lofa County Community College (LCCC): Renovated the admissions office, agriculture department teachers' lounge, library and study rooms, the computer server room and IT office. Also renovated the Career Resource and Internship Center and the Department of

Agriculture's finance and administration office. Completed cabling for the V-SAT internet service, and procured and provided computers and office furniture.

2.3 Establishment of Agriculture Laboratories

- USAID FED procured an extensive array of equipment for the agriculture science laboratories for each of the CoEs and began supporting the renovation of buildings that will house the equipment.
- Developing CoE Capacity to Generate Funds to Sustainably Maintain and Operate Equipment and Facilities
- USAID FED carried out several strategic/business planning workshops with the management of the CoEs. It was agreed upon that the CoEs will focus on two to three enterprises and operate these for the purpose of generating funds instead of just demonstration purposes. As a result, a revised MoU requiring the CoEs to provide personnel to manage the enterprises have been signed between USAID FED and the CoE management.

2.4 Number of Students Benefitting from Improved Facilities and Program

- A total of 745 agriculture students (547 males, 198 females) are enrolled at the community colleges and BWI for academic year 2013-2014.

Students Enrolled at CoE Agriculture Departments

Institution	Males	Females	Total Enrolment
Lofa County Community College	197	51	248
Grand Bassa Community College	49	27	76
Nimba County Community College	96	48	144
Booker Washington Institute AVTP	72	14	86
BWI Regular Program	133	58	191
Total	547	198	745

3. Major Challenges in Programmatic Implementation and Lessons Learned in FY14

The following excerpt comes from the findings of USAID FED STTA, Earnest Musinamwana, highlighting the need to address basic infrastructural and human capacity challenges in FY15 and FY16.

“Community colleges have barely enough infrastructural and human capacity to execute the core mandate of teaching and assessing students. Community colleges have not yet reached the critical mass in infrastructure and asset investments, and this undermines core service delivery and limits potential for commercial revenue generation.”

USAID FED has two years left on the project. Grand Bassa, Nimba and Lofa county community colleges and BWI will continue to require substantial investment in terms of technical resources and asset

support in order to put in place the foundations of a Center of Excellence in vocational agricultural education.

Another major challenge is the approach to practical exercises. USAID FED supports demonstration sites at each CoE for learning purposes. These demo sites proved useful for students to learn and develop practical skills, but are expensive and require resources and maintenance. The CoE will not be able to maintain demonstration farms on campus for all the agricultural commodities, except for the two or three that they are operating as enterprises. A more innovative way of doing practical exercises have to be identified, such as taking students on field trips to existing farms and partnering with these farms as internships.

Textbooks and reference materials are important components of education. The challenge is to find textbooks and reference materials that are adapted to Liberia or to the West Africa region.

Additional challenges:

- There is a general lack of entrepreneurial culture as college administration is pre-occupied with building a working academic model.
- The work-based learning and internship component is weak due to limited industry partnerships.
- The colleges' internal work processes, in terms of planning, communication and coordination, are still nascent and weak; roles overlap, and some key responsibilities, such as fundraising and public relations management, are not clearly assigned.
- Insufficient human resources to cover competing priorities.
- Lack of a complementary governance system to support the management of the CoE.
- Absence of a technical advisory committee consisting of representatives from the college, industry, research and development sectors.
- Potential partners
- There are currently no other donor projects providing support to vocational agricultural institutions. However, there are several agri-businesses (e.g. Firestone, Sime Darby) and donor projects working in agriculture that could partner with CoEs. MSME beneficiaries of USAID FED are also potential partners.

C. Approach to Achieve LOP Targets/Objectives and FY15 Objectives

I. Strategy for FY15 and FY16

- Roll out the NDA curriculum and aim to have one graduating class by the end of project.
- Develop innovative practical learning exercises that are woven into the syllabi and lesson plans to ensure students gain practical skills from the program
- Campaign to get more youth to enroll in the NDA program
- Develop internship programs with industry players
- Establish and implement program to develop instructors' skills and knowledge, and performance management.

- Continue to upgrade the facilities, specifically the library and the agricultural science laboratory, ensuring the personnel's capacity to effectively operate these facilities.
- Strengthen governance systems through the establishment of advisory committees composed of CoE administrators, agri-business leaders and other relevant stakeholders.
- Build the CoEs' capacity to generate funds from various sources including agri-business enterprises and grants, and improve operational management.
- Segregation of duties and ensuring there are personnel to manage the business and generate funds.
- Financial systems with sufficient control mechanisms in place.
- Capacity-building of the agri-business department of CoEs via coaching and exposure visits to profitable enterprises

The above activities require a large amount of work and skills. With only two years remaining, the only way to ensure performance of the above is for senior experts to provide technical assistance in vocational education, institutional development and/or business. Currently, USAID FED has a junior Vocational Agriculture Education Officers (VAEO) in every CoE. These VAEOs do not have the necessary experience and level of expertise and seniority to effectively provide guidance to CoE management in order to carry out the above strategy. Senior technical staff must oversee the implementation of the program at each CoE.

2. FY15 Anticipated Achievements

- NDA curriculum is adopted and implemented by CoEs
 - Roll out the NDA curriculum in the first semester of the 2014-15 academic year.
 - Complete the syllabi and lesson plans for the second year of the NDA.
 - Identify practical exercises both on campus and extracurricular fieldwork.
 - Work to double the enrollment in agriculture (NDA and regular agriculture curriculum).
 - Develop internship programs with industry players.
- Establish and implement program to continue instructors' skills and knowledge development, and performance management.
- Develop performance management system.
- Support priority training needs, i.e. immediate needs for delivery of the NDA.
- Make exposure visits to reputable vocational agricultural institutions in the ECOWAS region.
- Continue to upgrade CoE facilities, specifically the library and the agricultural science laboratory, ensuring that personnel have the capacity to operate these facilities effectively.
- Complete the renovation and outfitting of the buildings that will house the science laboratory equipment.
- Hire STTA who will focus on training instructors and technicians in the use of the equipment, and management and maintenance of the laboratories.
- Complete outfitting of the library with reference materials, textbooks and Flash web material.
- Provide internet connectivity for all CoEs and create a plan on how to monetarily sustain the subscription.

- Build the CoEs' capacity to generate funds from various sources, including agri-business enterprises and grants, and improve operational management.
- Develop the CoE human resources and operation manual, outlining the segregation of duties and ensuring there are personnel who manage the business and fund generation.
- Facilitate the improvement of the financial systems with sufficient control mechanisms in place.
- Strengthen the CoE's business department via training, coaching and exposure visits to vocational institutions in the region that have profitable agricultural enterprises.
- Provide training and assistance to the CoE in the development of proposals for grants, financing and other funding sources.
- Support development of a three-year strategic plan for each CoE that identifies priority enterprises to be established over the next three years. The plan includes a corresponding business plan supported by market research and a feasibility study.
- Support two to three feasible enterprises in each CoE and identify other services that CoEs can offer for a fee like soil testing, internet access, photocopying, business development services
- Enhance governance systems through the establishment of advisory committees composed of the CoE administrators, major agri-business leaders and key relevant stakeholders.
- As a complementary governance structure, the advisory committee will be helpful in the following:
 - Creating a vision that is relevant to the needs of the industry and the surrounding communities
 - Securing resources
 - Defining clear roles and responsibilities for the management personnel
 - Establishing and monitoring benchmarks for performance
 - Promoting the institution's accountability to key stakeholders
 - Developing selection criteria for membership to Advisory Committees
 - Developing legal and organizational instruments to guide the operations of the Advisory Committees

3. FY15 Indicators and Targets

Number of individuals supported with long-term training: 1,500 (Approximately twice as many as in FY14).

D. FY15 Work Plan

1. Results Framework for Task 3.0

Constraints	Proposed Solutions	Key Activities	Outcomes in FY15
Lack of standardized curriculum	Develop and implement MoE-accepted curriculum that emphasizes practical skills in	NDA development, adoption and promotion	NDA curriculum rolled out in the first semester of AY2014-2015

	agriculture development		<p>Syllabi and lesson plans for the second year of the NDA completed</p> <p>Practical exercises both in school and out-of-school field work identified and incorporated into lesson plans</p> <p>Enrollment in agriculture at CoEs (NDA and regular agriculture curriculum) increased to 1,500, roughly twice as much as in FY14</p> <p>Internship programs with industry players developed and MoUs signed</p>
Poor capacity of instructors	Continuing instructors' skills and knowledge development program	Instructors' skills development program	<p>Performance management system established</p> <p>Instructors trained on effective delivery of the NDA</p> <p>Instructors gain knowledge on best practices in vocational education in the ECOWAS region</p>
Lack of appropriate equipment and facilities	Provision of appropriate equipment and facilities	<p>Establish agricultural science labs and train instructors and technicians</p> <p>Upgrade and outfit libraries</p> <p>Establish computers and internet connectivity</p>	<p>Laboratory facilities renovated and properly outfitted with equipment</p> <p>Instructors and technicians trained in the use of the equipment, management and maintenance of the laboratories</p> <p>Libraries outfitted with reference materials, textbooks and flash web kit</p> <p>CoEs provided with computers and internet connection</p>
Insufficient funds to support CoE operations	Build capacity of CoEs to generate income from different sources	<p>Provide workshops and technical assistance to develop and implement the CoE's three year strategic plan, including the establishment of priority enterprises</p> <p>Make exposure visits to vocational institutions with profitable enterprises</p> <p>Training and technical assistance to the business</p>	<p>Three-year strategic plan including business, HR, institutional and financial plans developed</p> <p>Two-to-three enterprises with business and marketing plans established</p> <p>Additional enterprises for FY16 and onwards identified</p> <p>Personnel trained on writing grant proposals and finding other funding sources</p>

		department of the CoEs	Additional funds generated from grants, and other sources other than GoL, USAID FED and the enterprises
Poor capacity to manage finances for sustainable operation of the CoE	Improve financial and organizational systems	Provide technical assistance on improving financial system	Financial systems improved, funding support to sustainable operation of facilities and equipment ensured
		Provide technical assistance on institutional/organizational development	Personnel is dedicated to fundraising and management of the enterprises
Weak governance system	Establish an Advisory Committee composed of key stakeholders	Develop selection criteria for membership to Advisory Committee	CoEs are more relevant, leading to improved employment prospects for graduates Increased potential for additional funding
		Develop legal and organizational framework for the operation of the Advisory Committee	Checks and balances for CoE management provided through the Advisory Committee
		Organize and commence operation of the Advisory Committee	

2. Work Breakdown Structure for Task 3.0

Activity 3.1.1 Roll out NDA curriculum in the first semester of the 2014-15 academic year

Task 3.1.1.1 Organize official launching of the NDA to include all stakeholders

Task 3.1.1.2 Distribute posters and flyers, use national radio and engage high schools to kickstart the NDA promotional campaign geared toward NDA enrollment for the 2014-15 academic year

Task 3.1.1.3 Monitor rollout by conducting assessment survey of NDA implementation with the CoEs

Activity 3.1.2 Practical exercises incorporated in the lesson plans

Task 3.1.2.1 Carry out reconnaissance of potential field/facility demonstration sites

Task 3.1.2.2 Organize stakeholder workshops/meetings to review curriculum, syllabi and incorporate practical lessons

Task 3.1.2.3 Negotiate with farm and facilities owners and finalize MoUs

Activity 3.1.3 Complete syllabi and lesson plans for Year Two of the NDA

Task 3.1.3.1 Recruit STTA to facilitate the development of syllabi and lesson plans

Task 3.1.3.2 Organize workshops that include CoE instructors and USAID FED staff to complete the Year Two syllabi and lesson plans

Task 3.1.3.4 Organize stakeholder meetings to provide logistical support for the revision, approval/adoption of the NDA curriculum and onward submission to ECOWAS-TVET

Activity 3.1.4 Develop internship programs with industry players and finalization of MoUs

Task 3.1.4.1 Hold consultative meetings with private sector players for the possible recruitment of interns from the community colleges

Task 3.1.4.2 Provide technical assistance to CoEs and private partners to develop selection criteria and set up vetting committees for intern recruitment for the internship program

Task 3.1.4.3 Develop and finalize the MoU that will serve as a legal instrument between the community colleges and private sector players

Task 3.1.4.4 Organize official launching of the internship program including all stakeholders

Activity 3.2.1 Establish Performance Management System (PMS) at the CoEs

Task 3.2.1.1 Recruit an expert to work with the CoEs to establish a PMS that will outline the following:

- Performance standards as benchmark for instructors
- Performance measurements to determine levels of competency against standards.
- Performance improvement process
- Monitoring and reporting progress, including feedback mechanisms.
- Performance appraisal and corresponding action policies.

Task 3.2.1.2 Hire STTA to follow up with CoEs on monitoring to ensure full compliance of PMS system

Activity 3.2.2 Instructors trained on effective delivery of the NDA

Task 3.2.2.1 Recruit an expert to conduct a capacity needs assessment to identify the skills required for instructors to effectively deliver the NDA

Task 3.2.2.2 Recruit expert to facilitate the delivery of training for instructors for the effective delivery of the NDA

Activity 3.2.3 Exposure visit to vocational education institutions in the ECOWAS region

Task 3.2.3.1 Identify and select institutions in the region

Task 3.2.3.2 Coordinate with CoEs to select participating representatives and organize and provide travel logistics to facilitate trip

Task 3.2.3.3 Finalize travel arrangements and itineraries with selected institutions and CoEs representatives and commence exposure visit

Activity 3.3.1 Establishment of standardized agricultural science labs, which include soil testing and other laboratory procedures, and training of instructors and technicians

Task 3.3.1.1 Recruit and mobilize construction firms to complete renovation and installation of all equipment and laboratory facilities

Task 3.3.1.2 Organize workshop for instructors and technicians to receive training on the effective use of the equipment, management and maintenance of the laboratories

Activity 3.3.2 Library facilitates upgraded, outfitted and maintained

Task 3.3.2.1 Procure approved listing of textbooks and reference materials

Task 3.3.2.2 Establish Flash website resource and deliver to libraries for utilization by faculty and students in support of the NDA

Task 3.3.2.3 Recruit an expert library facilitator and organize intensive workshop to train the librarians from the CoEs on how to effectively operate and maintain the libraries

Activity 3.3.3 Establishment of computer labs at the CoEs

Task 3.3.3.1 Provide CoEs with long-term internet connectivity and additional computers and software in order to support the NDA and income-generating activities

Task 3.3.3.2 Outfit computer labs to adequately accommodate students and instructors during practical lessons

Activity 3.4.1 Develop and implement three-year strategic plan including priority enterprises to be established at CoEs

Task 3.4.1.1 Hire STTA to work with CoEs to develop three-year institutional strategic plan, including plans for human resources, operations and finance

Task 3.4.1.2 Provide technical assistance to CoEs to identify additional enterprises for FY16 and onwards

Task 3.4.1.3 Support the establishment of two or three feasible enterprises with business and marketing plans

Activity 3.4.2 Build capacity and provide technical assistance support to the CoEs' business departments

Task 3.4.2.1 Recruit expert to train CoE personnel in writing grant proposals and finding financing from other funding sources

Task 3.4.2.2 Work with CoEs to ensure the generation of additional funds through grants and alternative financing other than GoL, USAID FED and the CoE enterprises

Activity 3.4.3 Improvement of Financial and Organizational Systems

Task 3.4.3.1 Provide technical assistance to facilitate the improvement of financial systems, putting sufficient mechanisms in place to ensure sustainable operation of facilities and equipment

Task 3.4.3.2 Provide technical assistance to ensure improvement of the organizational structures/manuals including segregation of duties and personnel dedicated to managing CoE enterprises

Activity 3.5.1 Establishment of advisory committee to provide checks and balances to CoE management

Task 3.5.1.1 Organize workshops, provide logistical and technical support to develop selection criteria for membership including legal and organizational framework for the operation of the Advisory Committee

Task 3.5.1.2 Provide technical assistance to coordinate CoEs and stakeholders for the selection of advisory committee members

Task 3.5.1.3 Organize meeting to elect committee leadership and induct new committee members

Task 3.5.1.4 Commence operation of advisory committee

3. Risk Analysis and Mitigation Plan

Deliverables	Target Completion	Responsible Staff/unit	Risk	Mitigation Strategy
The National Diploma in Agriculture program developed and adopted	June 2015	Albert & Sherman	Low risk: Delay in the completion and adoption of standardized curriculum as a result of Ebola outbreak in the country	Follow up with the leadership of the CoEs to ensure adoption, and provide assistance as necessary
NDA curriculum rolled out in the first semester of the 2014-15 academic year	March 2015	Albert & Sherman	High risk: Delay in the opening of schools resulting from Ebola outbreak	Prepare all necessary materials for immediate rollout once the vocational institutions are open
Practical exercises incorporated into the lesson plans	January 2015	Albert & Sherman	High risk: Due to the CoEs' low capacity and lack of interest from private sector for partnership	Support the development of additional practical demonstration farm enterprises on campus and engage private sector to draft a proposal that is beneficial to both parties
Syllabi and lesson plans for the second year of the NDA completed	July 2015	Carl Motsenbocker	Low risk: Scheduled in 2015 when experts expect the Ebola outbreak will be under control	Introduce qualified individuals of the agriculture industry in Liberia to provide expertise in the development of the NDA curriculum
Internship programs with industry players developed and MoUs signed	June 2015	Albert & Sherman	High risk: Due to the CoEs inability to sustain the internship program because of financial insufficiency, and the industry partners' unwillingness to cover intern costs	Develop a win-win arrangement with the private sector involving a cost-sharing model with USAID FED, the private sector, students and CoEs
Instructor skills development program established	May 2015	Florence	Moderate risk: Due to the inability to follow through due to competing priorities, especially during the course of the semester	Hire an international STTA to conduct training; should be precise and completed in two short phases to support instructor momentum

Instructor performance management system (PMS) developed and adopted	April 2015	STTA	Moderate risk: Due to the CoEs' dependence on USAID FED to put systems, thereby making the endeavor non-sustainable	Hire an experienced STTA to set up PMS systems at the four CoEs; USAID FED should ensure consistent follow-ups until the system becomes a culture at the CoEs
Instructors trained on effective delivery of the NDA	March 2015	STTA	Low risk: Due to the diverse training needs required to fulfill delivery of the NDA	Ensure the recruitment of an expert with broad knowledge and experience in agriculture sciences to fulfill the instructors' training needs
Exposure visit to vocational education in the ECOWAS region	May 2015	Florence	Moderate risk: The CoEs' selection of the appropriate faculty will be delayed along with the 2014-15 academic year	Selection criteria should be clearly communicated and qualifications of candidates verifiable; USAID FED staff should be part of the selection process
Appropriate equipment and learning facilities established	June 2015	Florence	Low risk: The activity was started in FY14	Follow up with prompt trouble-shooting
Standardized agricultural science labs established and instructors and technicians trained	June 2015	STTA	Low risk: Due to the CoEs' inability to maintain the facilities	Hire a STTA trainer
Library facilities upgraded, outfitted and effectively maintained	August 2015	C3 LTTA	Low risk: Maintenance of facilities is not complicated for a well-trained librarian	Follow up with prompt trouble-shooting
Computer labs established and internet connectivity installed	June 2015	Florence	High risk: Due to the CoEs' inability to pay for internet subscription	Build the capacity of the CoEs to raise revenues from sources other than the government
Capacity of CoEs to generate incomes from different sources developed	September 2015	C3 LTTA	High risk: Due to the CoEs' inability to maintain/sustain the processes and systems	Hire LTTA with experience in profitable operations of agri-businesses as well as successful experience in proposal writing for grants

Three-year strategic plan, including priority enterprises, to be established at the CoEs, developed and implemented	June 2015	C3 LTТА, Albert & Sherman	High risk: Due to the CoEs' inability to sustainably maintain various enterprises while managing the agriculture department	Hire LTТА with experience in strategic planning and profitable operations of agribusinesses, as well as successful experience in proposal writing for grants and provide additional STТА support
Capacity of business department of the CoEs improved	September 2015	C3 LTТА	Moderate risk: There is a potential problem of availability of instructors for training and workshops due to competing priorities	Require CoE commitment through the MoUs
Financial and organizational systems of CoEs improved	September 2015	C3 LTТА	Moderate risk: There are competing priorities for CoE administrators	Could be deferred to FY16
Advisory committee, which incorporates key stakeholders, established	August 2015	C3 LTТА, Albert & Sherman	Moderate risk: The private sector may show little interest and there could be resistance from CoE leaders	Hire STТА that will do the ground work with the private sector and the board of directors of the CoEs

Component Four: Cross-Cutting Functions

Task 4.1: Communications/Knowledge Management

The Communications team promotes USAID FED achievements in Liberia, in the United States and internationally. The Communications team nurtures old partnerships and develops new ones while promoting the overall progress of the program.

This requires an approach that includes creative public relations, strong reporting and marketing.

USAID FED's Communications team aims to enhance knowledge management systems to ensure all information produced by FED staff and partners is accurately and timely archived and distributed.

Activity 4.1.1 Public Relations

Promoting the achievements both internally and externally is essential to the overall success of the USAID FED program.

- **Success Stories:** USAID FED's Communication team will work to increase the visibility of the program's accomplishments among USAID, US government organizations and local and international media outlets. Every month, the Communications team will try to report and write at least two success stories that will be published through USAID and DAI's social media channels.
- **Media Stories:** USAID FED's Communication team will also assist international and local journalists in writing effective stories for a wider global audience, and convert popular success stories into larger media stories.
- **Media Events:** USAID FED will hold one large event each quarter to invite high-profile visitors to see the most significant achievements made throughout the year. In addition, smaller events will be held to honor beneficiaries and engage local stakeholders.
- **Radio Program:** USAID FED Communications team will work with partners such as the Ministry of Agriculture communications department, and United Nations Mission in Liberia (UNMIL) Radio to document advances made in farming and disseminate timely information on market prices, training and capacity-building initiatives.

Activity 4.1.2 Reporting

The Communications team will adhere to the reporting calendar to compile, edit and turn in USAID FED deliverables in a timely manner.

- When reporting, the Communications team will work with the M&E team to ensure that reported indicators are relevant to the LISGIS and Comprehensive Africa Agriculture Development Programme (CAADP), which aim to increase growth in the agricultural sector by 6 percent by 2015. M&E compliance will assist Ministry of Agriculture (MoA) better measure the agricultural sector's growth and allow FED to better meet the MoA's M&E needs.
- The Communications team will document case studies from each of USAID FED's value chains to illustrate the lessons learned. Case studies will be shared with USAID, national and international partners.

Activity 4.1.3 Marketing and Project Promotion

The marketing side of Communications helps to improve external communications through the production of easy-to-read and easy-to-understand products and well-branded materials.

- USAID-branded signage will be developed for specific conferences, workshop, etc. as required.
- An updated one-pager on USAID FED achievements will be developed and updated quarterly.
- The Communications team is responsible in organizing and requesting that every work site has the proper signage, and that each sign is branded with the activity and USAID FED's name.
- The Communications team will use a graphic designer consultant to assist in designing flyers, posters and other materials as required.

Activity 4.1.4 USAID FED Information Systems Strengthening

- Place more focus on the county-level record-keeping and procedures and conduct follow-up on site-monitoring reports to analyze and capture best practices and lessons learned through case studies.
- Ensure that essential information from reports is packaged and properly disseminated to internal and external parties.
- Conduct follow-up on site-monitoring visit forms with activity managers. Interview beneficiaries and implementing partners to recognize potential success stories, case studies, best practices and lessons learned.

Activity 4.1.5 Knowledge Management

- Package all STTA and internal reports approved thus far for possible printing and uploading to Development Experience Clearinghouse (DEC), ensuring proper marking and branding and USAID approval.
- Organize STTA exit presentation as knowledge-sharing events and invite relevant shareholders
- Conduct monthly after-action review with activity managers based on field visits, in conjunction with the technical and M&E teams at monthly value chain meetings.
- Create an internal bibliography of all publications to date with a search-and-find mechanism to help ease the manner with which we find items offline.
- Carry out at least one knowledge-sharing activity to share lessons learned from FED program implementation

Task 4.2: Environmental Compliance

Challenges

In addition to promoting sound environmental management as a key aspect of improved, sustainable agricultural production, USAID FED must also comply with U.S. federal regulations that govern the implementation of USAID-funded development activities. As such, all program interventions must operate within the project environmental compliance framework, most importantly the Initial Environmental Examination (IEE) and the Environmental Mitigation and Monitoring Plan (EMMP). The IEE and EMMP include specific environmental compliance criteria that apply across the four FED value chains. While these criteria are rooted in the principles of enhanced natural resource management, they

also reflect a ‘common sense’ approach to ensuring that the program can effectively manage the environmental risk associated with project activities. The challenge for the program is to meet environmental mitigation and monitoring requirements (i.e. to implement the EMMP) in a manner that encourages overall project achievement, and in a manner that is generally understood and endorsed by USAID, project staff, partners and beneficiaries.

Milestones in FY14

There were no major challenges to implementing the program EMMP or to meeting other environmental compliance criteria in FY14. Achievements in this area include:

- In accordance with Liberia Environmental Protection Agency requirements, an Environmental Impact Assessment was conducted for the installation of a biomass power generator by a hired consulting firm, Earth Environmental, for Fabrar Liberia’s rice processing facility in Kakata, Margibi County.
- USAID FED continues to develop five rice irrigation management sites consistent with the IEE.
- USAID FED reviewed the agro-chemicals recommended by vegetable cold chain specialist Emmanuel Owusu to determine if these were part of the Pesticide Evaluation Report and Safer Use Action Plan (PERSUAP). The review showed that the agro-chemical products contain active ingredients that are already approved for use by USAID, or would likely be approved for use in an amendment to the current PERSUAP.
- Executed quarterly environmental compliance reporting, documentation of environmental monitoring activities and updating of environmental files at county offices.

Principal Objectives for FY15

The principal objective for FY15 is to facilitate project implementation while ensuring compliance with USAID regulations and the project’s approved IEE and EMMP. This includes “mainstreaming” as part of programming – especially training — practices that are environmentally sound and that will safeguard human health and the environment. The EMMP will be updated regularly to reflect changes in FED operations and strategy.

In fulfilling environmental compliance criteria, the project continues to focus on the following:

- Cassava agro industries present a number of environmental management challenges. The cassava value chain team will work with the Environmental Monitoring Assistant to advise cassava processors on issues related to the training of workers on occupational safety, facility siting, access to clean water, and waste management. Cassava processors will be monitored to ensure compliance with the IEE and EMMP.
- No undisturbed or substantially un-degraded upland tracts (e.g., primary, or “virgin” forests) will be converted to agricultural use, and the land area used to cultivate upland rice will be limited to the rehabilitation of pre-existing agricultural land or otherwise degraded forest or plains.
- Land preparation activities shall integrate best management practices reflecting local soil conditions, climate and hydrology in order to reduce erosion (wind and water), and limit potentially nutrient-rich agricultural run-off, and, for irrigation, limit farm and conveyance losses.

- No bio-engineered or GMO products may be introduced or supported by USAID FED under the project's current USAID-approved IEE.
- The promotion of and/or training in the use of power tillers, threshing machines, or other labor-saving farm machinery (motorized or not) shall demonstrate and advocate the wearing of appropriate personal protective equipment (e.g., boots, gloves, respirator, safety goggles).
- The establishment of new water access points for irrigation demonstration purposes shall be assumed to serve at least occasionally as domestic drinking water sources, and will therefore be subject to the project's approved Water Quality Assurance Plan (included as part of the EMMP).
- The issue of land degradation, restoration of soil fertility and the management of soil resources are fundamental for sustainable agricultural and economic development. As such, USAID FED is committed to the environmentally sound use of fertilizers, including an ISFM strategy that promotes conserving moisture and increasing organic and inorganic fertilizer based on soil analysis prior to application.

Approach

To achieve FY15 objectives, the Environmental Monitoring Assistant will remain in regular contact with FED staff to ensure that necessary input and guidance are provided and that routine and regular environmental field supervision is conducted. The EMMP will be treated as a 'living document' to be updated and revised based on changes in project approach or operations, or with the addition of new activities. Support for EMMP implementation will be achieved primarily through continuing integration with the project's M&E team, and targeted training and capacity-building in environmental issues.

Efforts planned for FY15 include:

- Training in environmental management best practices for all extension officers across the four value chains.
- Continued development of environmental monitoring checklists based on extension staff feedback that can be used for monitoring of ongoing field activities across the four value chains.
- Integration of environmental management best practice themes and techniques in all applicable USAID FED training activities.

Activities

Activity 4.2.1 Environmental Monitoring

Environmental compliance programming for FY15 will focus on the implementation of environmentally sound interventions that also comply with the USAID-approved IEE and EMMP. This includes regular field monitoring across the four value chains in consultation with the Chief of Party (COP), Deputy Chief of Party (DCOP) and activity managers to ensure that ongoing and proposed activities are adequately addressed and all environmental files are updated at the county level.

Proposed activities that *are not* adequately addressed in project environmental compliance documentation will be reviewed and discussed in detail and integrated for necessary review and/or approval by USAID. Additional resources and tools for use within USAID FED may be developed to

simplify or facilitate compliance with IEE and EMMP requirements. This support and consultation will be performed under the direction of the COP and DCOP.

The DCOP Technical and Environmental Monitoring Assistant will regularly review files relating to environmental compliance for each activity at the county level to ensure that these are current and comply with project requirements.

Activity 4.2.2 Mainstream On-Farm Health and Safety Training (including personal hygiene and safe-water use)

Use of unclean water for irrigation presents significant food safety concerns. Safe irrigation water use will be added to the vegetable production training module. In particular, this training is intended to reduce the risk of unsafe water being used to irrigate leafy vegetables, which may lead to foodborne illnesses.

On-farm environmental health and safety, use of personal protective equipment (PPE), and personal hygiene will be included in training modules across the value chains. While the use of PPE is required by the IEE, a number of concerns are emerging around general on-farm use of PPE and latrines, where it is currently not a requirement. Recent concerns about snake bites, accidental wounds from cutlasses and hoes, standing for extended periods in contaminated water without boots, and open defecation around farms are concerns that need to be addressed.

Task 4.3: Monitoring and Evaluation

Challenges

The main challenge for M&E is the collection of accurate data, which can then be transformed into meaningful information for effective project management. The information and data need to be timely in terms of contractual reporting and providing information to management for interventions or decision-making.

Monitoring is a tool for Project Management to support projects components to keep the project on track or propose corrective measures in cases where the project lags behind or there are issues in the implementation strategy. The challenge for a huge and complex project such as FED is to find a smart way to conduct the monitoring through the efficient use of project resources, especially in the face of competing project priorities.

Milestones in FY14, Lessons Learned in Programmatic Implementation

The M&E Operations and Procedures Manual was completed in FY13. The manual is continuously updated.

Several farmer-based surveys were conducted during the year, including the following:

- 1.) Cassava Yield Survey
- 2.) PUA Voucher Special Studies conducted in July 2014
- 3.) The Rapid Rural Assessment (RRA) was launched in March 2014
- 4.) The Rice Yield Special Study conducted in September, 2014
- 5.) The Nutrition Extension Messaging survey was conducted in September, 2014

6.) Vegetable Farmer Survey is a continuing activity

M&E carries out rice and cassava harvest surveys annually while the vegetables and goats surveys are carried out on an ongoing basis. Harvest results, production input costs and sales are key data points to be gathered through these survey efforts because they are critical inputs for the gross margin calculations.

Additional milestones included an analysis of the completed follow-up impact surveys, the preparation of the quarterly Indicator Progress Reports, the data quality audit carried out together with Liberia Monitoring and Evaluation Program (LMEP) and the review of USAID FED indicators.

The task of data collection at the field level was delegated to the expanded extension staff in FY14. Program extension officers are now very involved in the collection of data and information in the field, while M&E county coordinators consolidate, process, and verify the data. The approach of mainstreaming the M&E responsibilities in the scope of work (SOW) of extension officers have effectively transformed them into project officers that manage more field activities and keep tabs on field performance data and information. The more frequent and regular interaction between extension officers and beneficiaries has facilitated a regular flow of information and timely reporting of progress of project implementation.

A new approach to data collection was under construction, with a first Excel sheet data repository which was called to become an online database for project tracking; in that approach, data entry occurs at the county level in real-time using the Montserrado server. This new introduction will surely boost the data collection and management system at all levels of the counties and at the Monrovia office. To do this correctly, the program developed a data collection plan that included all field indicators/variables definitions. The goal is to have the data available at the county and Monrovia offices.

Principal Objectives for FY15

In FY15, USAID FED will develop a more efficient data collection and transmission system from the counties to Monrovia by utilizing recent technologies for data-sharing and transmission. This is expected to provide close to real-time information on progress of project implementation, thereby resulting in improved project management and timeliness of reporting to USAID. This software and the system will eventually be transferred to the MoA.

A priority task for FY15 is the revision of USAID FED's Performance Management Plan (PMP) to better reflect USAID FED's contribution to the food security goals of the USAID Mission in Liberia and the Feed the Future Global Initiative.

USAID FED will also review and revise its LOP indicator targets to reflect what the program has achieved in the last three years and what can realistically be achieved in the final two years based on recent and anticipated developments in Liberia.

The M&E data collection system in place will be refined based on the FY15 work plan to serve management and USAID needs, including bifurcation of data by county, gender and age. USAID FED will set the transmittal process in place for the flow of data from the field through the county and on to Monrovia.

The program will work with the value chain leads in training and mentoring extension officers in the use of existing indicator tools for gathering data, and work with the county managers to ensure that extension officers are collecting data and reporting on a bi-weekly basis.

USAID FED will introduce and train extension staff in the simple statistical tools for field research such as Excel and Access database management for use in monitoring project activities and for carrying out surveys on project indicators. These survey indicators include recipients of radio messages, adoption of technologies, and the impact of services and trainings.

USAID FED aims to establish an online system for collecting data and reporting by M&E staff in the field. M&E will work with the county managers in developing reporting formats to track activity progress against targets on a weekly basis. Also, USAID FED will update the M&E data collection plan to update indicators in data collection and reporting.

List of Proposed Monitoring and Survey Activities and Responsible Office

Activities	M&E	Extension	Enumerator Pool/STTA
Field data collection at village level		X	X
New group member lists		X	
New group field measurements		X	
Request from cassava group for a survey and field measurement of cluster fields	X		
Environmental compliance for new fields/sites		X	
Surveys might include a one-time survey following the vegetable field days, a rice survey in the fall, a one-time survey following the rice field days, and a one-time radio survey for a total of maybe 4 surveys	X		X
Follow-up on use and usefulness of extension materials		X	
Farmer level record-keeping		X	
Crop harvests	X	X	
Surveys for Gross Margin calculations	X		
Request from Input Supply for assistance with the voucher program process	X		

Enterprise development activities:			
Follow-up on utilization of commodities received through the voucher program		X	
Other agro-dealer activities follow-up	X		
VSLA program follow-up	X	X	
OD and FM training follow-up and			

success with registration and business start-up	X		
FaaB follow-up and success in use with the groups		X	
Private sector surveys including agriculture machinery fabrication, cassava processing, rice milling			X
Drying slab use and par-boiling		X	

Education activities			
Follow-up activities at the community colleges, BWI, progress of CoE development and the ESCs	X		

Cross-cutting activities			
Follow-up on gender, nutrition messages, storage, food processing – who is doing and how much?		X	X
MTTA/STTA for an analysis of the Year 3 rice/cassava harvest and possibly look at some of the other VC analyses for content and validity	X		
Gender participation issues, work force survey, land use planning	X		
Indicator tool data collection for investment, sales, loans	X	X	
Baseline surveys of new groups joining FED		X	
Surveys on miscellaneous topics: weather data, soil data, environment issues re shifting cultivation, agriculture tech gap issues and technology requirements,	X	X	

Activity 4.3.1 M&E in the field

M&E staff will work with extension staff, enumerators, group leaders, lead farmers and individual farmers to initiate a system of maintaining production records, and put in place a system for the timely receipt of data and information from the field staff for reporting purposes. M&E staff will train and mentor extension staff in the various tools to be used in collecting field data for reporting on indicator progress.

M&E systems have been established within each target county and are continually being upgraded and revised, at the same time targets and activities are approved and implemented. These systems are part of the M&E Operations and Procedures Manual. The manual is updated as necessary.

Activity 4.3.2 M&E Reporting

Reporting templates for bi-weekly and quarterly reports have been developed, assuring that data and reports are submitted on a timely basis. M&E will make sure that outcome and impact reports from the field and from technical leads are randomly verified.

Activity 4.3.3 Activity Monitoring Plan and Extension

Activity Monitoring Plans are prepared for each activity and serve as the basis for monitoring and follow-up activities in the field by the M&E coordinators and extension officers. To the extent necessary, M&E will assist the extension staff in their responsibility to complete the Environmental Compliance for all new value chain sites that USAID FED will engage in FY15. As requested, M&E will assist the environmental officer in follow-up surveys involving environmental issues in the field.

Task 4.4: Management of the Market Development Fund (MDF)

The Market Development Fund (MDF) is USAID FED's instrument to combat the 'give/get-things-free' approach to agricultural development. The MDF supports value chain participants, including farmers, transporters, processors, packagers, marketers and all associated industries, small and large, in both the private and the public sector, to overcome critical constraints to generating increased income by taking full advantage of existing and emerging market opportunities. The MDF is designed to be a flexible tool to help USAID FED achieve its objectives and intermediate results.

MDF Eligibility

The MDF will continue to issue contracts on a competitive basis, following the issuing of requests for quotations (RFQs), requests for proposals (RFPs) or indefinite quantity contracts (IQC) for the specific procurement needs of approved MDF activities. The beneficiaries of these MDF activities, which are linked to USAID FED's FY15 work plan targets, are chosen based on a full and open competition and justification process, which began in Q4 FY14. Each MDF activity that involves beneficiaries defines the beneficiary cost-share prior to MDF approval and procurement, to ensure innovative approaches to accelerating the realization of growth opportunities within the four targeted value chains. To track and document beneficiary partnerships, USAID FED signs memorandums of understanding (MOUs) for each MDF activity that involves a final beneficiary.

MDF Management

The Fund has been fully operational since June 2013 through the use of the Technical and Administrative Management Information System (TAMIS). Local Liberian MDF staff include an MDF Specialist, two MDF Coordinators, and an MDF Assistant, all managed by the expatriate MDF Manager. The Monrovia MDF team is each given specific MDF activity numbers to manage the procurement of that specific activity over its period of performance. The County Administrative Officers manage MDF procurements in FED's four counties.

Over the course of FY14, it was found that the high number of tasks managed by the four County Administrative Officers could not be done by one person. It was also realized that the county offices needed to hire Junior County Administrative Officers to assist the Senior Administrative Officers and ensure separation of duties within the counties. Recruitment for Junior County Administrative Officers was conducted during Q4 of FY14. However, due to the Ebola crisis, the hiring of additional staff was put on hold. In Q1 or Q2 of FY2015, USAID FED intends to resume the recruitment of this much-needed position within the four county offices.

The MDF Manager's contract with USAID FED ends on May 26, 2015 . The MDF Deputy Manager position was developed to assist the MDF Manager in the extensive number of tasks the MDF Manager performs. It was envisioned that the MDF Deputy Manager would then take over the MDF department when the expat MDF Manager leaves Liberia. All Liberian candidates were underqualified during the first round of recruitment in Q4 FY14.

The recruitment of the Deputy MDF Manager post has become a critical post for the human resources department to fill prior to the MDF Manager's departure in December 2014. USAID FED proposes to open the Deputy Manager position to international LTTA with the view that the incumbent will assume the MDF Manager position when the current MDF Manager leaves in December. A local MDF Deputy Manager will then be recruited in Q2 of FY15.

MDF Inventory and Non-Expendable Property

One of the major lessons learned during FY2014 is the continued management and documentation of non-expendable property (NXP) in the field. Prior to FY14, USAID FED non-expendable property had not been managed or tracked to the greatest extent possible. In Q1 of FY14, an audit was conducted by the MDF Manager and STTA Michael Manansala from DAI home office to track down any NXP items that had been procured by FED and to verify USAID approval. In November 2014, a retroactive request was made by DAI to USAID for NXP items procured. The approval of those retroactive items was given in May 2014.

During Q4, the MDF Manager created an offline NXP tracker for all MDF inventory ever approved and the subsequent procurement and disposal of NXP items. This NXP tracker is reviewed and updated on a monthly basis, reviewing all purchase orders of NXP items prior to full execution. Following the approval of USAID FED's yearly work plan, DAI must submit a request to procure all NXP items intended to be procured during that fiscal year to correspond with a specific work plan activity. USAID NXP procurement approval documentation is necessary on all requisitions and purchase orders in TAMIS. The USAID approval documentation is attached to all financial documentation prior to purchase order payment. USAID approval to dispose of NXP goods to beneficiaries is done following delivery of the good to the beneficiary, on a quarterly basis.

In FY14 Q4, DAI home office FED Project Associate Michael Manansala was to come to Liberia to oversee another training and audit of program inventory, and train Operations Manager Bruno Bracewell on documentation and tracking. An NXP evaluation was also supposed to take place during this STTA by Mr. Manansala for the entire project. As a result of the Ebola crisis, this STTA was postponed to FY15. The audit is needed as soon as STTAs are able to come back to Liberia.

MDF STTA

After the Ebola travel ban is lifted for Liberia, MDF would like to propose USAID FED's home office-based Program Associate, Michael Manansala, and FED's Contract Manager Radu Ciobanu, to travel to Liberia to help the MDF and Operations department in various tasks. Mr. Manansala will work with Bruno Bracewell on redefining the inventory tracking system in TAMIS, and auditing all inventory records, both hard and soft copy, to ensure they were stored per USAID FED's record map. While Mr. Manansala is in Liberia, he will also conduct an audit of all MDF files and help assist with the closeout of

FY14 activities. Mr. Ciobanu's STTA would focus on training the new MDF deputy manager and provide assistance to the MDF procurement staff on difficult procurements in the pipeline. He would also conduct restricted commodities, non-expendable property and higher threshold audit of MDF procurement files.

MDF Finances

In Q1 and Q2 FY14 the MDF Manager completed the internal financial audit of the first two years of implementation. The purpose of this activity was to define what expenditures were billed correctly to the right MDF activity and which expenditures need to be recoded to the right CLIN, task, and MDF activity number. The actual corrections were not completed by the finance department during FY14 Q3 or Q4 due to the transition from the previous Deputy Chief Of Party (DCOP)/Finance and Administrative Director (FAM) to the current DCOP/FAM, Rebecca Javier. The task of financially correcting these three hundred plus transactions is very time-consuming. Due to the current Ebola situation in Liberia and the capacity of the local Liberian staff to maintain current financial transactions, this non-essential task will need to wait until Finance is back to full capacity in FY15.

Every month, the MDF Manager reviews every line of the USAID FED Invoices submitted to USAID. Corrections ensue from both DAI home office and FED field finance as a result of coding errors and incorrect item descriptions. Following DAI's monthly financial close, the MDF Manager reviews the financial coding of each line of the previous month's invoice to USAID through an Excel database to ensure that FED is properly coding expenditure lines to the correct CLIN and line item from the contract. The MDF Manager creates the month's MDF financial analysis for submission to USAID in the monthly report. Many times, additional coding errors are found and brought to the attention of the Finance team for correction in the following month's financial cycle. The MDF Manager continues to follow up with Finance on a monthly basis concerning previous coding errors and proper billing of MDF expenditures within DAI's field accounting system.

MDF Procurement Requests

In October/November 2015, the MDF Manager will continue to work on and finalize the FY15 non-expendable property (NXP) *request to procure* for submission to USAID. Throughout the year, *requests for disposal* of approved NXP procurements for MDF beneficiaries will be submitted to USAID. DAI will also submit *notification of specification/price changes* to USAID prior to MDF procurement to inform all parties that a FY14-approved NXP item has been amended either based on technical specifications or competitive market pricing.

MDF Manager Remote Working

As a result of the Ebola crisis, the expat MDF Manager has been delegated to work remotely. As a result, the local Liberian MDF staff has taken on more responsibilities and has been able to gradually show increased capacity in expanded responsibilities in the field. The MDF Manager continues to oversee each of the MDF Procurement Coordinators on a daily basis through messaging, calls, and emails. However, with the increased workload, the amount of time it takes the MDF Coordinators to execute procurements has grown. As a result of the MDF Manager's remote location, when issues arise it takes longer to fix problems or illustrate solutions. The review of requisitions, selection memos,

solicitations and all procurement documentation takes more time than when the MDF Manager is located in Liberia.

Additional Lessons Learned and Recommendations for FY15

Public advertisement up-country

The capacity of the local vendors up-country is not as strong compared to Monrovia vendors. Newspapers are unavailable up-country and therefore many RFQs are advertised on local radio stations to reach a broader audience of vendors. Solicitations are also posted around large market places.

FED builds the local capacity of vendors at the county level to bid on RFQs and RFPs, competitively. This ultimately helps to build markets outside of Montserrado County. Engaging input suppliers in MDF procurements up-country also helps to build the local economies in the counties.

Business registration/license in an informal sector

One of the greatest difficulties in the counties is awarding the procurement of goods and services to a small business that might not be registered yet with the Liberian government. FED tries to award purchase orders to businesses with local Liberian business licenses, and in some procurement cases it becomes the deciding factor along with price in selecting vendors. A mandate of FED is enterprise development, which includes promotion of formalization of micro-enterprises. The MDF preferential option to source locally encourages local vendors and bidders to be responsible and register their businesses.

When a solicitation garners a number of small businesses without business registrations, FED county teams instruct the farmer or business owner on how to register their businesses. In instances where a vendor has the highest technical specifications and reasonable price, yet is not a registered business, FED will award the procurement to that bidder but request that they use a portion of the profit to register their business. FED uploads business registration forms in TAMIS and makes a note in the vendor's file of whether or not a business has been trying to get registered with the local ministry.

Payment of Vendors/Personnel outside of Monrovia

Even if a small business up-country is capable of obtaining a business license or business registration, the likelihood of that business having a bank account associated to that small business' name is unlikely. Many businesses do not have confidence in the banking sector in Liberia and many prefer to receive cash for payment over check due to the fragility of banks in the counties. Many times the vendors that FED deals with are in remote areas of the counties, hours away from formal banking. As a result MDF worked with FED Finance and the DAI home office to create a check list of documents that vendors need to provide if they were to receive cash versus check payment. To the greatest extent possible, FED county teams collect the vendor's registration and photo ID to document that the correct person/vendor was paid for goods or services.

During the procurement period, County Administrative Officers make a note to file that a vendor could not receive payment in check due to the vendor/individual not having a bank account or due to

inaccessibility of a bank. When an invoice was received after the delivery of the good or service, FED Finance would wire/send cash to the county location of the vendor and payment would be confirmed by FED staff in the county. This lesson learned on the payment of vendors is linked to the need for another administrative assistant in the county offices to ensure the separation of duties between the FED personnel that conducts the county procurement and the FED personnel that issues payment for that expenditure.

Pre-financing for vendors/Independent Consultants (IC)

Another constraint of small businesses in the counties is lack of working capital or savings to assist in essential business pre-financing. Access to finance for transportation companies to purchase fuel or an individual's ability to pay upfront for hotel bills and incidentals when traveling for FED work is not possible for Liberian individuals/businesses. Many vendors upcountry want partial payment or payment upon signing of contract. MDF and FED Finance have tried to document these situations, and depending on the case a mobilization payment is administered so as not to impede project implementation. These mobilization payments involve an initial deliverable (work plan for ICs or delivery timeline for transport vendors). The majority of FED contracts that use this mechanism are for county transport companies to assist in purchasing fuel to make the delivery of inputs to beneficiaries and independent consultant agreements to assist in travel costs.

County Administrative Officer Capacity

Given the need to scale up implementation and the delays in procuring many items from Monrovia, the County Administrative Officers continued to be trained throughout FY14. In April 2014, DAI home office sent out procurement trainers to train all of FED field staff on USAID and DAI policies and procedures concerning procurement. However, even with all of this added capacity-building, the scope of work of the County Administrative Officers has become too demanding for one person. As a result, in Q3 FY14, a scope of work was created for a Junior County Administrative Officer position. Meanwhile the current County Administrative Officers would become Senior County Administrative Officers.

HR record-keeping in TAMIS/link to MDF module

In Q1 of FY2014 during Michael Manansala's STTA, it was discovered that HR had only been keeping hard copy files and not utilizing the HR module in TAMIS. Over course of Q2 and Q3, the HR department uploaded and filled in all HR templates in TAMIS. This was a critical task for MDF independent consultants (IC) because TAMIS would link an IC to the MDF activity in TAMIS, allowing Activity Managers to track personnel on their technical activity. TAMIS also allows approved procurement requisitions to be linked to an IC's personnel file, which then allows finance to track invoice payments. The MDF Manager conducts a bi-annual audit of MDF IC personnel documentation in TAMIS to ensure that this procedure is maintained.

MDF Financial Analysis

Since April 2013, the MDF Manager has conducted monthly MDF technical expenditure analysis for the USAID monthly report. However, beginning FY14 Q2, the MDF Manager began organizing this financial analysis for review by the FED technical team. In FY14 Q3, the MDF team conducted training on budgeting for FED's technical team and County Managers focusing on the need for activity managers to track procurements and maintain current budget to actual expenditures of their activities for proper project management. Actual expenditures illustrate project implementation and proper project management. In June 2014, the MDF Manager began sending out a weekly MDF breakdown of MDF activity expenses for the week. This analysis was just another tool that the MDF Manager has created to enhance the analysis of FED MDF activity implementation.

Program Management of Technical Teams

One of the biggest bottlenecks in FED implementation is the capacity of the local technical staff to manage multiple project activities simultaneously and stay on top of critical implementation timelines. Technical activity managers normally focus on one task at a time and rarely see the higher work plan objectives. It is hard for certain staff to prioritize activities and understand that certain activities are key and contribute to FED's end of project goals. Every project staff member has undergone numerous procurement trainings. However, requisitions are still not entered into TAMIS in a timely fashion due to improper planning, which ultimately delays procurement and implementation.

A majority of the local staff cannot keep up with deadlines and implementation timelines, which has led to delays in procurement and extended period of performance of FY14 work plan activities. Another capacity constraint of local staff is their inability to follow up and maintain activities in TAMIS, such as knowledge management, actual expenditure tracking, close out and documentation of outcomes. In FY14 Q4, an STTA for a Senior Project Management Advisor was planned to support Component Leads, Value Chain and Task Leads, and County Managers on project management skills and FY15 work planning design. However, the Senior Project Management Advisor was unable to travel to Liberia due to the Ebola crisis. This Project Management Advisor STTA is incredibly important for the local technical team. Hopefully in FY15, this STTA can come to Liberia to provide the training, coaching, and mentoring to USAID FED technical staff on project implementation and management.

MDF Deputy Manager

MDF Manager's contract ends on May 26, 2015. The MDF Deputy Manager position was developed to assist the MDF Manager. It was envisioned that the MDF Deputy Manager would then take over the MDF department when the expat MDF Manager leaves Liberia. All Liberian applicants to the position during the first round (June 2014) and second round (September 2014) were underqualified. The recruitment of the Deputy MDF Manager post will most likely need to be filled by a long-term expatriate. The Deputy MDF Manager position has become a critical post; DAI's HR department hopes to fill this post in Q1 FY2015. In addition to fulfilling the needed qualifications for this position, it will be challenging for FED to find an expat who will be willing to travel to Liberia due to the continuing Ebola crisis.

Task 4.5: Management and Operations

Human Resources

Challenges

The challenges of hiring competent professionals in FY14 remained largely the same as the previous year. It was difficult to find local professionals strong in areas such as report-writing, engineering, and business. In the last quarter, the Ebola epidemic resulted in many professionals leaving the country, making it even more difficult to find professional staff to recruit. For the positions the project has recruited for, many qualified applicants currently live abroad and may not return in the short term, depending on the speed of containment of the Ebola outbreak.

The challenge of finding qualified women for many of the county-based positions also remains due to the lack of women with technical and managerial skills. Many qualified women do not want to live in the counties and so, those who may be qualified, do not apply for vacant positions as they prefer to live in Monrovia.

Milestones and Lessons Learned in FY14

During the period under review, the HR office hired and completed orientation for 16 new local long-term employees and 148 Independent Consultants (ICs). One training activity was conducted in the Monrovia office on hiring ICs and writing scopes of work in June. Due to the Ebola outbreak, several meetings were held with Monrovia staff to share information on the outbreak and on measures for keeping staff safe. The HR unit managed four separations and ensured that the staff members were paid their entitlements as per the personnel manual. The HR team continued to provide excellent administrative and personnel support for over 100 staff in Monrovia and the county offices.

The HR unit took on the responsibility for monthly payroll processing and the payment of overtime for staff. These have been done successfully now for two months.

The project has learned that more effort is needed to get women to compete for vacancies. Moving forward, USAID FED will seek to hire female agricultural students in internships with the project's county offices so that the program can hire these women for positions when they become available. Additionally, these internships will strengthen their capacity and give them the knowledge and skills needed to perform in these positions.

Principal Objectives FY15

In FY15, the human resources team will continue to provide support to the technical team and project staff in Monrovia. Our focus will be on helping the local staff to better understand and appreciate the HR processes, including the annual review/goal-setting process. Efforts will be made to identify relevant capacity-building opportunities for qualified staff when educational institutions reopen. Efforts will also be made to assist staff in finding online learning opportunities for those in the counties and/or who may be unable to physically attend educational institutions.

The team will work with the project's management team to revise the SoWs for both local and expatriate staff to broaden responsibilities given limited resources and FED's current needs. In instances where positions cannot be filled with nationals due to a lack of qualified applicants, FED will request USAID to approve hiring of international staff.

Approach

1. Recruitment

The HR team will continue to provide overall support to the team on all recruitment and new hiring processes, including SoW development, posting advertisements in newspapers, reviewing CVs, and shortlisting the most qualified candidates. The HR department will seek out more female candidates for the positions that will become available. Members of the project's management team will also be encouraged to support hiring female agricultural college candidates for internships who could then, upon graduation, fill some of the project's technical positions. The project hopes that its demonstrated interest in hiring females will in turn cause more women to apply for vacancies.

In order to fill the positions available in FY15, the HR team will attend job fairs on college / university campuses that have programs related to agriculture to expose and showcase FED's job opportunities and articulate the role women can play. Targeted schools include: The University of Liberia Agriculture College, CUC Agriculture College, and BWI agriculture department.

The team will work to implement the policy of giving priority to equally qualified women candidates for FED positions.

2. Capacity-Building

The HR department will plan for and roll out more intensive training in FY15 for supervisors on management, goal-setting, and capacity-building to enhance their capability to deliver on the program's mandate. Training will also be organized for the Program Officers (former M&E Specialists) in Q1 of FY15, depending on when the SoWs are revised.

3. Performance Management

The HR department will lead the internal annual review and goal-setting process for all local staff and ensure that the project's benefits package remains competitive. HR, together with the project's management team, will work to implement a reward system recognizing exemplary employees. The awards will be given at the end of FY15.

Information Communication Technology (ICT)

Challenges

The project has not been able to use fiber connections in the field offices due to vendor's inability to offer this technology outside of Monrovia.

Achievements in FY14

The ICT team has been able to effectively manage and maintain the information technology setup and infrastructure of the program. They have successfully upgraded the project's internet connectivity from the use of VSAT to fiber connections at the Monrovia office that led to increased staff efficiency. The ICT team has also trained staff in the basic use of ICT applications and equipment. Additionally, the team was able to build the network infrastructure at the community colleges, helping to bring these institutions up closer to the level of Centers of Excellence in vocational agricultural education.

Principal Objectives for FY15

One of the ICT team's principal objectives is to switch from VSAT to fiber connections for all of FED's county offices. To further ensure adequate productivity, the project needs to change from D-Link Access point to Cisco for complete network reliability for both Monrovia and field offices as the gadgets continue to fail and create unwanted downtime. In addition, the project will continue to provide IT support to the 100-plus FED staff.

Approach

Conduct monthly routine servicing of all ICT equipment and software within FED. Conduct periodic training for staff.

Procurement, Operations, and Finance

Challenges

The FED Operations Procurement team has faced numerous challenges during FY14, including the following:

- A limited number of suppliers/vendors for needed goods and services.
- Delinquency by some service providers/suppliers in delivering needed goods or services on time.
- Vendors providing quotes for goods that they did not have in stock.
- Requisitions for project goods and services were often expected in a more rapid turnaround than originally requested.
- The wear and tear of project vehicles due to very poor road conditions.
- Fleet management issues resulting from staff making urgent vehicle requests without proper planning.

The Finance department is still faced with the typical challenges that a large project supporting various remote county offices would normally encounter. Some of the FY14 challenges include:

- Getting cash safely to the field offices in large amounts for their monthly needs.
- Difficulties with getting the County Managers/Administrative Assistants to clear advances in a timely manner, resulting in huge outstanding balances of project advances during reporting periods.
- The high volume of transactions that come through the Monrovia finance office, given the size and scope of the program.

- Continuing the education of national finance team to keep abreast with the required basic standards of fieldwork.

Achievements in FY14

- The timely procurement of spare parts and maintenance services for project vehicles.
- The timely procurement of operations goods and services in the four FED priority counties in support of project implementation.
- The establishment of successful business relationships between FED and suppliers/service providers.
- The use of fuel cards (TOM Cards) by Total Liberia to purchase petroleum products. This reduced the cash exposure among project staff who previously took advances to buy fuel for vehicles, generators, and motorbikes. This was in support of the effort to improve efficiency measures in fleet management.
- The purchase of 22 motorcycles for the operations of the project, and receipt in March and April 2014 respectively, of one Nissan pickup and two Toyota 4Runner Jeeps from HQ for operations and MDF.
- The successful transfer of title to MoA, BWI, NCCC, GBCCC, and radio stations.
- The arrangement with Ecobank that allowed the project to use online banking for payment to vendors and for payroll.
- The automation of the payroll system, so that monthly staff salaries are paid real-time through online payments.
- Cash advances in care of staff are now paid online to each employee. This minimizes individual cash exposure in project operations.

Principal Objectives for FY15

In FY15, the Operations department will continue to provide support to the entire FED team. To do this, the Operations team will be more proactive in planning and executing duties in compliance with DAI/FED policy. The team will also ensure frequent dissemination of information as a means of getting the staff to be more proficient and efficient in completing their tasks.

The department will continue to promote and enhance competitiveness and transparency in selecting potential vendors in line with DAI/USAID procurement procedures and guidelines. It will procure requested goods and services in a timely manner in support of rapid project implementation and scaling-up of activities. It will also execute Blanket Purchase Agreement for all recurring local procurements to improve efficiency.

Financially, the team will continue to ensure total compliance with DAI and USAID financial rules and regulations while ensuring FED's staff and programs have all of the financial resources required to effectively implement their programs. They will also maximize utilization of online banking to improve operational efficiency.

Approach

The team's approach will be to continue to support the offices in both Monrovia and the counties to ensure the timely procurement of goods and services in a manner that is DAI / USAID-compliant, and to ensure smooth operational and logistical support is provided to FED staff, partners and beneficiaries. This will be especially critical given the large scaling-up of activities that is anticipated in FY15. The team will also continue to adhere to all of DAI and USAID's financial and administrative policies, and ensure vendor payments and staff salaries are made on time.

To achieve this goal, we will ensure the following tasks are completed efficiently and in a timely manner:

- Receive and coordinate all operations requisitions from the field and main offices.
- Conduct market surveys to acquire the best price, best quality and availability of stock for requested goods and services.
- Prepare RFQs/RFPs for needed goods and services above US\$3,000 prior to purchase and send to newspapers/radio/internet for public advertisements.
- Ensure transparent bid opening of participating vendors and prepare selection memo along with procurement supporting documentations for competition.
- Award purchase orders to selected vendors/service providers.
- Prepare sub-contracts for operations services when necessary for signature between DAI and selected vendors/service providers.
- Execute Blanket Purchase Agreements for all recurring procurements.
- Make quarterly field visits to county offices to ensure the operations and procurement policies and procedures are followed in procuring local operations goods and services.
- Update procurement data in TAMIS and ensure that all outstanding POs not yet paid are submitted to finance department/DCOP-FAM for timely processing.
- Update supplier banking details to maximize utilization of online payment.
- Arrange for an electronic transfer of cash to the counties for an efficient cash management.
- Execute bi-weekly submission of field cash reports to capture expenditures in a timely fashion.
- Conduct continuing education for Finance team.