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# FOOD AND ENTERPRISE DEVELOPMENT (FED) PROGRAM FOR LIBERIA

FISCAL YEAR 2014 ANNUAL REPORT



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## **Fiscal Year 2014 Annual Report**

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**COVER PHOTO:** Students at the C.B. Primary School, located outside of Monrovia, attend to vegetables in a school garden.

### **DISCLAIMER**

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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

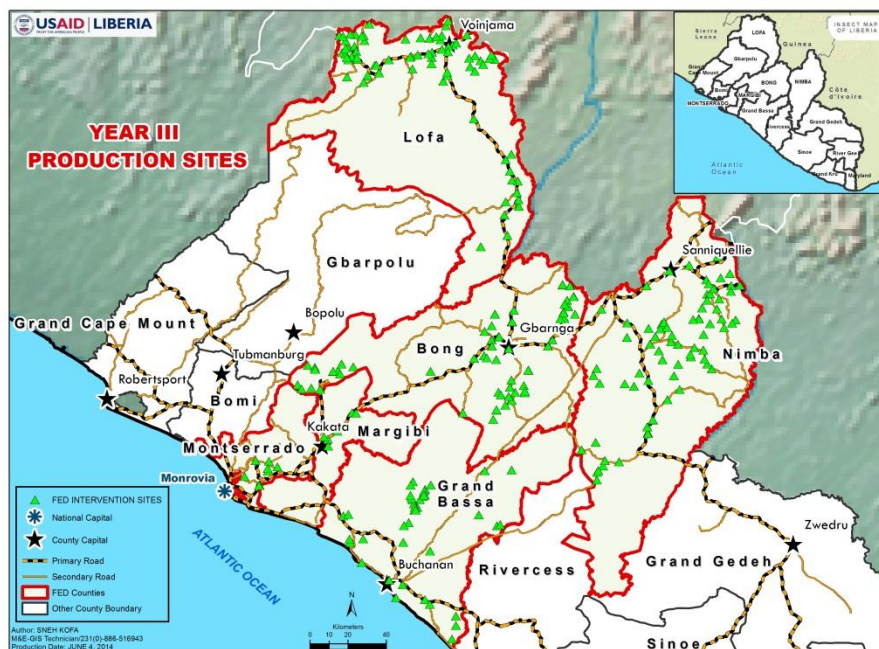
MFI	Micro Finance Institution
MIS	Market Information Systems
MoA	Ministry of Agriculture
MoCI	Ministry of Commerce and Industry
MoE	Ministry of Education
MoF	Ministry of Finance
MoP	Muriate of Potash
MoU	Memorandum of Understanding
MSME	Micro, Small and Medium Enterprise
NAPEX	National Association of 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



## Executive Summary

FY 14 has seen FED successfully ramp up programming in spite of several challenges such as the Ebola outbreak that happened in the last quarter of the fiscal year.

In FY14, FED implemented programming in 876 villages (more than three times the number of villages in FY13) in 38 districts in the counties of Bong, Nimba, Lofa, Grand Bassa, Margibi and Montserrado. The introduction of the cluster approach to programming led to a more efficient operation of the FED County Offices as well as its partner local NGOs (LNGOs).



The cluster approach focuses value chain programming in geographic areas where there is a concentration of farmers working in that specific value chain. This approach has allowed the program to significantly exceed several of its targets as shown in the Indicator Progress Report (IPR) table. (See Attachment A).

Among the most notable accomplishments of USAID FED in FY14 are as follows:

- Implementation of improved technology in 6,525 hectares, which is 13 percent higher than target.
- Provision of direct program assistance to 1,637 private enterprises, producers' organizations, women's groups, trade and business associations and community-based organizations, which is 137 percent more than the target for the fiscal year.
- Direct assistance to a total of 40,779 (114 percent of target and more than twice the outreach of FY13) individuals coming from 36,723 households.
- Generation of 2,177 jobs or full-time employment (FTEs), which is 21 times higher than target and 24 times higher than what was generated in FY13.
- Sales at the farmers' level have reached US\$1,077,100, which is more than three times the sales of FY13.

FED leveraged private sector resources in expanding production, improving productivity, and increasing processing and storage capacity. More than US\$1.4 million were generated from the private sector as investment in different segments of the value chain, resulting in increases in processing capacity and storage capacity. By the end of FY14, additional processing capacity reached 16,400 metric tons, while storage capacity rose by 2,054 cubic meters.

It is very important that these increases in processing and storage capacities were achieved in FY14 in sync with surplus production by FED-supported farmers. In FY14, FED-supported rice farmers sold more than 1,220 MT of rice from the FY13 production worth US\$565,000. FY14-supported rice farmers are

expected to harvest over 10,000 MT of rice from more than 3,800 hectares cultivated in FY14. It is expected that approximately 50 percent of this produce will be sold to processors.

Among the achievements under Component One was the establishment of 10 rice business hubs in strategic locations. Eight of these hubs were fully functional at the end of FY14. All 10 are expected to be functional by Q1 of FY15 and will provide processing (threshing and milling) and storage services to rice farmers in time for the harvest in Q1 of FY15. They will be providing power-tilling services during the rice production season in FY15. Other accomplishments under Component One are detailed under each task and sub-task.

Under FED's Component 2, significant milestones have been achieved in the area of Business Enabling Environment (BEE) in FY14 with the ratification and promulgation of four policies: EO#64 and the seeds, fertilizer and pesticide regulations. EO#64 waives import duties on agricultural inputs including machineries, equipment and agro-chemicals. This duty waiver is designed to encourage more private sector investment in agriculture. The seeds, fertilizer and pesticides regulations will ensure quality of these inputs. Quality assurance is expected to result in increased productivity and profitability, which will encourage farmers to invest in these agro-inputs.

One of the major challenges faced by the program is beneficiary readiness for formal financing, since the beneficiaries are largely informal micro-enterprises with no business history. They are, therefore, deemed high-risk and non-bankable. No banks are willing to lend to them. To address this constraint, FED focused on mobilizing informal financing using Village Savings and Loans Associations (VSLAs) as a platform. FED was able to organize 123 predominately women VSLAs. FED also partnered with a micro-finance institution, the Liberia Entrepreneurial and Asset Development (LEAD), and was able to generate US\$276,300 in financing for the agricultural activities of FED beneficiaries. In FY15, FED will scale up support to VSLAs and to LEAD, as well as focus on finding private sector value chain players who are willing to offer embedded financing.

Under Component 3, a major accomplishment is the approval by the Ministry of Education of the National Diploma in Agriculture (NDA) curriculum that FED helped to develop. The NDA is a two-year vocational diploma program that partner vocational institutions agreed to adopt. In preparation for the implementation of the NDA, FED supported the development of the syllabi and lesson plans of the courses to be rolled out in Year One.

Still under Component 3, FED planned to establish five Enterprise Service Centers (ESCs) that will provide access to Business Development Support (BDS) services to MSMEs in agriculture. A major challenge that FED faced in this effort was finding organizations or businesses in the counties that have the capacity to deliver BDS services. In general, local organizations in Liberia are in need of capacity-development support to run their businesses in a profitable manner. It is therefore difficult to expect them to have the knowledge and skills to help MSMEs in agriculture in improving their businesses. FED selected three candidate organizations to support as Enterprise Service Centers. They have been provided with extensive training and coaching on various facets of business development services. However, after all the training and coaching, an evaluation of their capacity still shows that investing in hard assets to support them to become ESCs may not be the best use of USAID's investment.

To address the issue regarding the absence of the ESCs, the program leveraged the VSLA initiative to provide BDS services to 2,193 (213 percent of target) micro, small and medium enterprises (MSMEs) including farmers. These BDS services primarily involved training and coaching on basic business practices such as record-keeping, savings, knowing market requirements, relationship between costs and sales, pricing, and planning of production.

In FY15, instead of focusing on establishing ESCs, FED will focus on developing providers who can provide BDS services including registration of micro and small enterprises that FED is working with. Further, since access to BDS services is a subtask under Component Two, ESC establishment will be combined with this task and will be transferred to Component Two.

## 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.

## COMPONENT ONE: IMPROVING AGRICULTURAL PRODUCTIVITY AND PROFITABILITY

### Task I: Value Chain Development

#### Task I.A: Increased production and profitability of Rice Value Chain

##### Principal objectives for FY14

During FY14, FED's principal objectives pursued under increased production and profitability of the Rice Value Chain were as follows:

1. To support 19,150 farmers in opening up 917 hectares of abandoned lowlands, in continuing to cultivate 439 lowland farms on 426 hectares that were previously supported, and in improving productivity of 1,863 hectares of upland;
2. To support rehabilitation of abandoned lowlands and productivity improvement of rice production in the uplands;
3. To provide adequate rice supply domestically for household consumption, produce surplus to feed FED-supported rice mills, and reduce the cost of rice production by increasing mechanization and storage capabilities of an industrial rice mill and establishing 10 community rice hubs;
4. To link rice farming groups with microfinance institutions and to provide trainings to improve rice farming technologies and improve seed quality;
5. To enable two harvests per year for farmers by supporting the implementation of Urea Deep Placement (UDP) technology and building water structures;
6. To train farmers on basic business concepts to promote farming as a business venture.

##### Activity specific results

##### Activity 1A.1 Production

##### **Activity 1A.1.1 Improving Productivity of Upland Rice Areas:**

A total of 206 upland groups were recruited in FY14, representing 8,595 upland rice farmers (5,342 men, 3,253 women) exceeding the FY14 planned targets of 150 groups and 10,177 farmers. The project provided these farmers with training, extension and farming inputs to use on 2,488.82 hectares of paddy rice in Bong, Nimba, Lofa and Grand Bassa. These farmers are expected to harvest 4,798 MT of rice valued at US\$1,919,200 during Q1 of FY15.

Table 1: FY14 upland rice beneficiary recruitment

County	Groups Recruited FY14 Production	FY14 Farmer Recruitment Target	Total # of Farmers Recruited as of August FY14	# of Male Farmers	# of Female Farmers
Lofa	33	3,600	2,478	1,137	1,341
Nimba	37	2,385	2,385	1,432	953
Bong	85	3,667	3,207	2,337	870

Grand Bassa	51	525	525	436	89
<b>TOTAL</b>	<b>206</b>	<b>10,177</b>	<b>8,595</b>	<b>5,342</b>	<b>3,253</b>

By the end of September, a total 2,488.82 hectares of upland farms had been planted across 224 identified sites, exceeding the targeted 184 sites and 625.62 hectares. Harvesting on most of these upland fields is expected to commence by October of FY15.

Figure 1: Upland rice field in Kweindin, Nimba County



Table 2: FY14 Upland rice cultivation by county

County	Target Sites FY14	Identified Sites FY14	Target Ha FY14	Total Ha cleared and planted YTD
Lofa	65	46	129.00	230.00
Nimba	43	37	90.20	95.32
Bong	66	85	1,600.00	1,673.50
Grand Bassa	10	56	44.00	490.00
<b>TOTAL</b>	<b>184</b>	<b>224</b>	<b>1,863.20</b>	<b>2,488.82</b>

In Q3, USAID FED facilitated a Training of Trainers (ToT) workshop in Bong County for four youth agriculture NGOs on strategies for upland rice production. As a result of this training and support from FED, the LNGOs were able to work closely with lead farmers in the upland. These youth groups helped in cultivating 2,488.82 hectares of upland rice, exceeding the projected target of 1,863.20 hectares. They were able help the farmers better understand the importance of crop rotation.

#### **Activity 1A.1.2 Expanding Production in Lowland Rice Areas:**

A total of 205 lowland sites were established during the FY14 implementation period, exceeding the target of 158 sites planned for FY14. USAID FED recruited 10,794 lowland rice farmers (5,652 men, 5,142 women), exceeding the FY14 planned target of 8,972 farmers. FED provided them with training, extension support and farming inputs to plant paddy rice on 1,425 hectares in Bong, Nimba, Lofa and Grand Bassa. The target for this period was 1,356 hectares,



Table 3: FY14 Lowland rice beneficiary recruitment

County	# Groups Recruited for FY14 Production	# of Farmers FY14 Targets	Total # of Farmers Recruited YTD	# of Male Farmers	# of Female Farmers
Lofa	44	2,058	2,680	1,280	1,400
Nimba	75	4,434	4,672	2,603	2,069
Bong	58	2,130	3,092	1,574	1,518
Grand Bassa	14	350	350	195	155
<b>TOTAL</b>	<b>191</b>	<b>8,972</b>	<b>10,794</b>	<b>5,652</b>	<b>5,142</b>

Figure 2: Transplanted lowlands Zeongehn village, Nimba County, September 2014



Table 4: FY14 Lowland preparation by county

County	Target Sites FY14	Identified Sites FY14	Target Ha FY14	Total Ha completed transplanting as of the end of FY14
Lofa	40	44	150.00	170.00
Nimba	72	75	405.00	483.22
Bong	32	58	757.00	748.50
Grand Bassa	14	28	44.00	25.00
<b>TOTAL</b>	<b>158</b>	<b>205</b>	<b>1,356.00</b>	<b>1,426.72</b>

As planned in FY14, FED conducted TOTs, trainings and field visits to provide technical support to these farmers. Forty lead farmers (39 men, 1 woman) from Bong, Nimba and Grand Bassa Counties participated in a Urea Deep Placement (UDP) TOT during the month of September. The five-day workshop aimed to further prepare lead farmers for the transfer of UDP technology to other farmers in the clusters. During Q1, the project participated in a System Rice Intensification (SRI) workshop in Kakata, Margibi County alongside 70 other participants from the country's rice sector, including Ministry of Agriculture (MoA) extension agents from eight counties.

The purpose of the workshop was to identify ‘champions’ and initiate a road map for future promotion and data collection of SRI methods being used in Liberia. In Q4, FED conducted UDP-SRI trials at two locations in Bong and Nimba counties to compare yield data from UDP-SRI technologies with that of UDP application. The project plans to carry out these trials during the dry and wet seasons, and will have results in early FY15. Additionally, FED conducted training in UDP-SRI technology for 12 participants (4 women, 8 men). The objective of the training was to introduce to participants the methods of land preparation, water management such as Alternative Wetting and Drying (AWD) and cultural practices involving SRI technology.

#### **Activity 1A.1.3 Mechanization in Lowland Rice Production Areas**

As planned in FY14, FED procured 20 power-tilling units which were distributed to the 4 county offices in addition to 10 power tillers used for demonstrations during the FY13 period. These 15-HP tillers have the capacity to plow up more than one hectare per day in water-saturated terrain. However, due to procurement compliance issues, the power tillers were received from the vendor after land preparation had been completed. These power tillers will be utilized for the FY15 land preparation activities.

In September, FED conducted a five-day power tiller operation and maintenance training, as planned in FY14, for 69 youths (66 males and 3 females) from Bong, Nimba and Grand Bassa counties. The training covered installation of accessories, power-tiller maintenance, troubleshooting, repair and efficient operation. The training was designed to cover a 10-day period in order to properly equip participants to become complete power-tiller operators. The second phase of the training was scheduled to be carried out in Q4 and had to be postponed due to the Ebola crisis. It will be conducted in FY15.

*Figure 3: A female youth from Grand Bassa County plowing the soil using power tiller*



#### **Activity 1A.1.4 Promoting Two Crops in a Year through Improved Water Management Infrastructure**

During Q2, FED conducted a workshop for 51 farmers and four Extension Officers (40 male, 15 female) from 12 rice-producing communities in Bong, Lofa, Nimba and Grand Bassa. FED planned to construct wooden irrigation spillways in these communities to address the lack of drainage systems identified in FY14. These irrigation infrastructures are more advanced, permanent, and constructed to allow year-round cultivation of rice in areas where there is continuous access to water supply, as opposed to the bunds and canals that are constructed in rain-fed areas. Workshop participants learned how to build and

manage irrigation spillways to control flooding by draining rice paddy fields, and to enable supply of water to the plants in optimal amounts during the dry season.

Construction of 12 spillways was completed (four each in Lofa, Bong and Nimba) by local communities with the support of Tallobenku Construction Company (Figure 2). FED successfully verified that all 12 spillways were functioning, exceeding the FY14 goal of identifying eight potential areas. The improved water management infrastructure will allow farmers to plant a second crop after the rainy season, allowing for two crops of rice per year as envisioned in FY14.

*Figure 4: Completed spillway in Kugbemaï, Voinjama District, Lofa County, July 2014*



#### **Activity 1A.1.5 Management and Business Training for Rice Producer Groups**

During Q2, FED conducted a business and management training in Bong County for 21 participants (17 male, four female) on business management and financial record-keeping. Training topics included management, leadership, and “strengths, weaknesses, opportunities and threats” (SWOT) analysis. Participants belonged to groups involved in the rice business hubs. These participants are chairpersons and secretaries of organizations operating the rice business hubs.

#### **Activity 1A.2 Processing, Storage and Trading**

##### **Activity 1A.2.1 Rice Processing and Business Centers**

###### **Community Rice Business Hubs**

By the end of Q4, nine rice business hubs had been built across four counties (three in Nimba, three in Lofa, two in Bong and one in Grand Bassa). This outcome came in slightly under the FY14 target of 10 hubs. The 10th hub is currently being built as a cost-share with a private entrepreneur who requested to increase the size of the hub at her own expense, saying that originally planned size is not enough for the expected yield. However, this entrepreneur is having difficulty coming up with her side of the agreement and the team is planning to meet with her to discuss a way forward for the hub.

Of the total constructed, eight have been fully equipped. The remaining hub in Lofa still has to receive equipment due to delays associated with Ebola-related travel restrictions to this county. It is anticipated that all the remaining rice business hubs will be fully equipped and operational by the end of October 2014. The rice business hubs serve as platforms by which mechanized services (e.g., power tiller, rice mill), storage and input supply are made available and accessible to the rice farmers. FED is providing training and coaching on how to manage these rice business hubs so they can operate profitably. Seven new potential locations (three in Bong, three in Nimba and one in Lofa) were identified as sites of rice business hubs in FY15.

The hubs also serve as outlets for milled rice aimed at increasing the availability and marketability of local rice, as well as aggregation centers for rice trading with large buyers such as Fabrar Liberia.

Table 5: FY14 Rice Business Hub status by county

County	# of hubs/location	Completion status	Equipment status	Overall status	Inauguration status
Nimba	3 (Doumpa, Payee & Boweh)	Completed	Fully equipped	Operational	Inaugurated
Lofa	3 (David Selma town, Foya & Serkonnedu)	Completed	Equipment delivered for installation	Operations expected to start in September	TBD in Q1 of FY15
Bassa	1 (Kpelleh town)	Completed	Equipment delivered for installation	Operations expected to start in September	TBD in Q1 of FY15
Bong	3 (Garmue, Totota & Bongmines)	2 completed; 1 under construction	Equipment delivered to the two hubs completed	Operations expected to start in October	TBD in Q1 of FY15

Figure 5: Completed rice processing center in Foya, Lofa County



Figure 6: Rice Business Hub in Doumpa, Nimba County





As planned in FY14, FED continued to support private sector investors such as Fabrar Liberia, Inc. Expansion of processing plant capacity in FY14 reached 6,000 MT per annum, exceeding the target of 4,000 MT. This was achieved through the installation of two modern milling lines, mechanical dryers, and packaging machines. Additionally, expansion of storage capacity to accommodate 800 cubic meters of processed, as well as grain rice, was completed as planned in FY14.

*Figure 7: The new rice milling line installed at FABRAR Liberia's industrial processing plant in Kakata*



Through these activities, the partnership was expected to increase rice production, raise farm incomes, and contribute to the improvement of Liberia's self-sufficiency rating in rice. The official launch of the rice milling facility, which was expected to take place in August 2014, was deferred due to the Ebola crisis.

#### **Activity 1A.2.2 Organize meeting events between Farmers, Aggregators and Buyers**

In Q2, FED initiated the first market linkages meeting between major buyers and farmer groups as outlined in FY14. Through the meeting, FED was able to foster a link between FABRAR Liberia and over 30 farmers from Fuamah Multipurpose Cooperative Society in Bong Mines. In total, 52 farming groups (44 in Lofa, five in Bong and three in Nimba) directly benefitted from FED's market linkage activities. This output exceeded the planned target of 48 groups in FY14.

With FED's assistance, FABRAR agreed to increase their purchase price to US\$19 for 50kg of paddy rice. However, the farmers ultimately sold their rice as seed rice to a different buyer who offered a higher price. Efforts to strengthen this linkage continued, and in Q3, FED verified the availability of surplus rice in Lofa County and helped facilitate the sale of paddy rice by the rice farmers to FABRAR Liberia.

FED also initiated meetings with representatives from the Ministry of Commerce and Industry (MoCI) on the possibility of selling Liberian rice under the 25-percent local procurement initiative sponsored by the Government of Liberia (GOL). The MoCI expressed interest to the idea. FABRAR Liberia is currently in discussion with humanitarian institutions such as the World Food Program (WFP) regarding the possibility of supplying processed rice. This market opportunity may be possible as WFP and other agencies plan for humanitarian assistance to communities affected by the Ebola crisis. By the end of Q4, an additional 2,000 bags of surplus rice valued at US\$38,000 that were verified in Lofa County could be sold to FABRAR Liberia. In addition, 750 bags of surplus rice valued at US\$13,500 were verified in Nimba County.

Figure 8: FABRAR General Manager paying farmers for rice delivered in Lofa County



#### **Activity 1A.2.3 Reducing Post-Harvest Loss Strategies**

The threshers planned for distribution under this activity were provided to the Pilot Rice Business Hubs as part of the one-stop-shop concept for mechanized services.

#### **Activity 1A.2.4 Improved Warehouse Facilities**

The warehouses under this activity were integrated into the rice business hub strategy.

### **Lessons learned**

#### **a. Value Chain interventions**

It will be important for development partners to discuss how best to intervene in the value chains without negatively distorting market prices and how to make sure that future procurements are not counterproductive to local Liberian processors. This will be particularly important as some development partners and the government source emergency rice reserves from local suppliers during the Ebola crisis period.

#### **b. Sustainability of paddy rice aggregation**

Farmers must be encouraged to understand their costs of production and plan aggregation within clusters in a manner that reduces their costs of doing business. One way of doing this is by encouraging collective bulking by farmer groups. Farming groups need more coaching on production planning, sales, as well as maintaining sustainable business relationships with the private sector to ensure win-win business relationships between both parties.

#### **c. Fertilizer and input provision**

While the soil sample analysis, results, and fertilization determination were delayed, the results will be valid for at least three years. This will be used as guide to FED's fertilizer support through the life of project. For the results to be useful, FED will hire a short-term technical assistant (STTA) to help develop a soils map of the areas where the soils have been analyzed. Then, an awareness campaign directed at both farmers and agro-dealers should be carried out, to help them understand the fertilizer requirements of different areas based on the soils analysis.

#### **d. Rice seed production and marketing**

Toward expanding rice seed production and marketing, FED will need to strategically engage partnerships with critical entities such as Africa Rice Center and the WAAP to ensure that adequate rice seed varieties can be produced and absorbed as well, to meet national requirements beyond FED's zone of influence. Further, a survey should be carried out to assess actual rice seed demand from institutional buyers, Government, NGOs and farmers in order to realistically plan production over the remaining period of the project.



## Task 1B: Increased production and profitability of Cassava Value Chain

### Principal objectives for FY14

In FY14, the principal objective of FED was to introduce improved cassava planting methods and Integrated Soil Fertility Management (ISFM) to 12,300 farmers working on 2,152 hectares of land. It was expected that at least 70 percent or 8,610 farmers would adopt the demonstrated technologies on at least 1,506 hectares (0.25 hectares of their respective lands). Forty commercial cuttings producers were to be supported in growing improved disease-resistant cuttings on 60 hectares of land. In addition, FED was to support the Central Agricultural Research Institute (CARI) in multiplying 11 imported, improved high-yielding and disease-resistant varieties on 5 hectares of land. Six small and medium entrepreneurs were also to be assisted in setting up modern processing facilities in Nimba, Bong, Lofa and Grand Bassa counties.

In FY13, FED's approach to showcasing improved technology and transferring knowledge on improved practices was through group demonstration farms. However, this approach did not work well because farmers were busy tending their own farms. USAID FED shifted the approach to establishing demonstration plots in Lead Farmers' farms and leveraging the "kuu" system to transfer knowledge and skills on improved technologies and practices. A cluster-based approach to programming was implemented for more efficient operation and for increased chances of success of value chain players including nursery operators, processing enterprises and cassava farmers. Clusters are defined by two factors: concentration of cassava farmers cultivating sufficient land area to produce enough volumes for a micro-processing center to operate optimally; and, presence of sufficient demand for planting materials for a cassava nursery to operate at a feasible level.

The *kuu* system is a traditional farming practice in which farmers organize themselves into small groups for the purpose of helping each other perform farming activities (e.g. land preparation, planting, weeding and harvesting). The demonstration plots of improved technologies were targeted to be set up in 615 *kuu* leaders' farms (0.5 hectares each, 0.25 hectares using improved disease-resistant cassava cutting and 0.25 hectares for legume to be used for future crop rotation).

FED also aimed to set up six modern processing plants and to provide technical support to nine existing processing plants which are either not functional or not operating optimally. This would be undertaken through cost-sharing of equipment and rehabilitation/construction of modern processing facilities. These 15 processors would be provided with the necessary training, coaching and mentoring on quality production, food safety standards, marketing, branding strategies, financial and business management, all designed to increase the processors' capacity to run the processing facility profitably.

### FY14 cassava production and sales from FY13 crop

During FY13, a total of 5,935 cassava farmers were supported by FED in applying improved production practices on 204 hectares of land. Based on average yields derived from the FY12 cassava survey of FED farmers, it is expected that these 5,935 farmers will have an average yield of 22 MT/hectares. They are expected to harvest approximately 4,488 metric tons of cassava tubers. By the end of September 2014, harvesting has been carried out in approximately 50 hectares of cassava farms. Approximately 651 MT of tubers were sold, representing more than 50 percent of the harvest.

Table 6: FY14 harvest from FY13 cassava crop

Estimated Area Harvested (ha)	July	August	Sept	Total
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Bong	0.08	0.14	1.24	1.5
Grand Bassa	1.7	2.26	3.7	7.66
Nimba	3.28	3.11	17.77	24.16
Lofa	2.3	6	9	17.3
<b>TOTAL</b>	<b>7.36</b>	<b>11.51</b>	<b>31.71</b>	<b>50.62</b>
<b>Cassava sales volume in MT</b>	<b>July</b>	<b>August</b>	<b>Sept</b>	<b>Total</b>
Bong	1.8	2.96	27.2	31.96
GB	10.9	11.4	21.7	44
Nimba	72.25	68.5	390.98	531.73
Lofa	5.52	15	23.28	43.8
<b>TOTAL</b>	<b>90.47</b>	<b>97.86</b>	<b>463.16</b>	<b>651.49</b>
<b>Cassava sales value in USD</b>	<b>July</b>	<b>August</b>	<b>Sept</b>	<b>Total</b>
Bong	\$158.82	\$261.18	\$2,400.00	\$2,820.00
GB	\$705.00	\$4,370.00	\$4,897.00	\$9,972.00
Nimba	\$9,932.93	\$9,417.38	\$53,751.93	\$73,102.24
Lofa	\$487.06	\$1,323.53	\$2,054.12	\$3,864.71
<b>TOTAL</b>	<b>\$11,283.81</b>	<b>\$15,372.09</b>	<b>\$63,103.05</b>	<b>\$89,758.95</b>

Harvesting is expected to continue through the first quarter of FY15.

## **FY14 activity specific results**

### **Activity IB.1**

Some 12,000 farmers in 41 cluster communities in Nimba, Grand Bassa, Bong and Lofa counties were introduced to improved planting methods and ISFM on 2,100 hectares of land. Support to 300 farmers in Montserrado County was ruled out, as FED concentrated on peri-urban vegetable production in the Montserrado County to be consistent with the cluster strategy.

#### ***Sub-Activity IB.1.1 ToT Training of FED, MoA and NGO extension officers in the counties***

In January 2014, USAID FED conducted a knowledge gap assessment and training of Extension Officers, together with their MoA counterparts, working in USAID FED's core counties across rice and cassava value chains. The knowledge gap assessments for rice and cassava EOs were conducted as part of a comprehensive, week-long training for each value chain. The training lasted five days and involved both classroom and practical field activities.

In order to determine technical areas of weakness and address those during training sessions, the program conducted a pre-training closed-book exam. At the end of five days, the same exam was administered to determine changes in technical knowledge of the subject value chain. As part of the training, participants were also asked to complete evaluation forms meant to rate the effectiveness of the different methods and modules of the training, as well as the instructors who presented them.

Results of the gap assessment and the pre- and post- evaluation of the training are available and can be obtained from the USAID FED office. A total of 125 Extension Officers participated in the trainings (55

Rice VC, 70 Cassava VC). Eleven percent of the trainees were female. For rice, the results of the 20 technical knowledge based questions suggest that participants' knowledge of improved technologies and practices increased by 9.40 percent after the training. Similarly for the cassava value chain, ToT participants' technical knowledge improved by 11.77 percent after the ToT.

### ***Sub-Activity IB.1.2 Mapping of the cluster production communities and identification of existing and potential processors***

In FY14, a total of 24 cassava production clusters with a total land area of 2,078 hectares were mapped using hand-held GPS devices in Lofa, Bong, Nimba and Grand Bassa. Each cluster is comprised of a unit of 15 *kuus*.

### ***Sub-Activity IB.1.3 Rollout of the extension package through the kuu system***

A total of 600 *kuus* representing 12,000 new cassava farmers in Bong (2,400), Nimba (4,800), Lofa (1,200) and Grand Bassa (3,600) were identified and supported during FY14. The 600 “*kuus*” are grouped into 40 clusters. Each cluster is composed of 15 *kuus*. The farmers were provided with tools, inputs, training and extension support. They were trained on the use of improved planting materials, how to plant of cassava in mounds and ridges with the goal of covering 2,490 hectares of land. They were also provided training and support on the use of ISFM on crop rotation with cowpeas and peanuts. These farmers had prepared 2573.6 hectares of land against a target of 2,490 hectares by the end of Q4. Of these, planting had been achieved on 2,273 hectares.

Table 7: Cassava land preparation and planting FY14

<b>Counties</b>	<b>FY14 Targets, Land Preparation (ha)</b>	<b>Total Ha prepared by August</b>	<b>Total Ha planted by August for FY14 crop</b>	<b>Total Ha prepared in Sept.</b>	<b>Total Ha planted in Sept.</b>	<b>Total Ha prepared YTD</b>	<b>Total Ha planted YTD</b>
Nimba	960	257	339	0	0	958	960
Grand Bassa	900	0	0	0	0	900	630
Bong	420	0	0	0	0	480.6	448
Lofa	210	0	0	0	235	235	235
<b>TOTAL</b>	<b>2,490</b>	<b>257</b>	<b>339</b>	<b>0</b>	<b>235</b>	<b>2,573.6</b>	<b>2,273</b>

### ***Sub-Activity IB.1.4 Rollout of extension package on lead farmer's plot from each kuu***

A total of 600 *kuus* represented by *kuu* leaders as lead farmers were each supported to establish 0.25 hectares of demonstration plots where improved technologies such as mounds and ridges have been employed. Through the demonstration sites, farmers within the *kuus* received training on good agronomic practices for the production of cassava. In addition, four youth LNGOs were contracted by FED to support the cassava production clusters through extension services.

## **Activity IB.2**

A total of 40 commercial cuttings producers were assisted in establishing 40 commercial cassava nurseries toward multiplication of five improved high-yielding cassava plant varieties on 60 hectares of land. Each nursery is linked to a cluster of cassava producers.

Improved high-yielding and disease resistant-varieties were also imported from International Institute for Tropical Agriculture (IITA) in Nigeria and are being screened at CARI and on two control sites in Lofa County.

Figure 9: Improved cassava varieties screening site in Lofa County



***Sub-Activity 1B.2.1 Work with CARI and Ministry of Agriculture (MoA) on the protocol of “certification” of the 40 commercial cutting producers***

The input supply team, the extension specialist and the cassava production team conducted a meeting with CARI and MoA, which led to the establishment of protocols on cuttings production toward certification. The 40 commercial nursery producers were trained on application and adherence to these protocols during the month of May 2014.

***Sub-Activity 1B.2.2 Training and technical assistance to the commercial nurseries to multiply improved cassava varieties***

The 40 commercial cuttings producers were provided with tools, extension service support, and training by FED and the contracted LNGOs. In addition, 1,560 cassava cuttings were supplied to the nurseries for multiplication. These nurseries are expected to start producing commercial supply of cuttings during FY15.

***Sub-Activity 1B.2.3 Training of extension officers on commercial cutting***

Before the rollout of the demo sites in Q3, FED held a series of ToT workshops in Bong, Lofa and Nimba counties and trained a total of 66 participants. The training targeted FED extension staff, all contracted NGO technicians and Lead Farmers, Nimba County Community College (NCCC) staff and two CARI staff. The training covered site identification and preparation, planting criteria, harvest and post-harvest management, processing cassava leaves, leaf selection and the production of mini-stem cuttings. FED also held practical field demonstrations and stressed the importance of disease identification and control measures in the cultivation of cassava and production of mini-stem cuttings. During the ToTs, FED discussed its future support to NGOs, Lead Farmers and FED extension officers.

***Activity 1B.3***

In FY14, a total of 33 cassava processors were identified and evaluated in terms of their capability to upgrade and the level of support that they needed. This evaluation serves as basis for the support to be provided to these processors in FY15.

***Sub-Activity 1B.3.1 Support 15 cassava processing enterprises to achieve profitable operation***

Initially, FED aimed at providing financial and technical support to six processors through cost-sharing for equipment and facility upgrade, and only technical assistance to nine existing processors. Toward this end, FED hired a Processing Enterprise Specialist (STTA) and a Cassava Enterprise Development Officer to support processing and market development interventions. A total of 33 micro and small processing enterprises were evaluated across five counties to assess their baseline profitability. Eleven SMEs based in Monrovia were assessed as potential buyers of cassava tubers. Four of these companies expressed interest in buying cassava from FED-supported farmers.

*Figure 10: Micro-processor processing gari in Zorzor, Lofa County*



*Figure 11: Karnplay Rural Women processors at Karnplay, Nimba*



In September 2014, a total of 25 cassava processors were provided with business development training in marketing, business leadership, packaging and financial management to help them improve their ability to manage their enterprises toward better profitability. This training was to be supported by one-on-one advisory support to help each processor adopt an enterprise processing model that is appropriate to his/her operation. However, due to the Ebola outbreak, the Enterprise Processing Specialist had to leave the country in early August, resulting in FED's inability to carry out the one-on-one coaching.

### ***Sub-Activity 1B.3.2 Linking processors and cassava farmers***

The identification and mapping of rural cassava micro-processors ensured that these processors are located in areas where there are high concentrations of cassava producers. During the month of August, meetings were organized between four Monrovia-based processing enterprises and cassava clusters in Bong, Nimba, Lofa and Grand Bassa. During these meetings, cassava farmers were able to understand the market requirements in terms of variety and volume demanded by processors. A total of 237 farmers participated in the market linkage activities with the four processors. As a result of these activities, a sales agreement was forged, but implementation is delayed due to the Ebola crisis.

*Figure 12: Falama Inc. representative speaking to farmers in Bong, County*



### ***Sub-Activity 1B.3.3 Advocate with the government to make the National Standard Testing Laboratory (NSTL) functional and lobby for legislation on food safety***

The FY14 work plan called for FED to conduct an assessment of the needs of the National Standards Laboratory (NSL) to enable it 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.

During Q3, MoCI launched a technical working group aimed at coordinating the efforts of donors, the NSL staff and MoCI itself. The purpose of the group is to bring together multiple stakeholders, including private sector and donors, who will assist the NSL in achieving accreditation and self-sustainability. In Q4, MoCI approved of FED's proposed consultancy to conduct a market study, business plan, gap analysis, and phased funding strategy to move the lab to the next level. Based on analysis, 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.

## **Activity 1B.4**

Support greater coordination among the different value chain players.

### ***Sub-Activity 1B.4.1 Coordination, network, knowledge-sharing and advocacy***

In August, FED participated in the official opening of the National Cassava Office in Monrovia. This office is expected to support improved coordination and information-sharing on the cassava sector in Liberia. Through the Agriculture Development Coordination Committee (ADCC) meetings at county and national level, as well as through the training of MoA and LNGO extension Officers, FED has continued to share information and expertise on improved production and profitability of the cassava value chain.



## Major challenges and lessons learned

At the beginning of FY14, FED assumed that cassava farmers have their own tools to use in their fields since they have already been doing this before FED. However, it later became evident that in order for the farmers to implement the improved technologies that FED is promoting, they will need additional tools. For FY15, all newly identified cassava farmers should be provided with basic tools to ensure that they are able to build mounds and ridges.

Utilizing the *kuu* system and *kuu* leaders as Lead Farmers has enabled a large number of farmers to meet their labor requirements, as well as to receive the requisite training on improved technologies. This approach proved to work well compared to the group demonstration farms. This will be continued in FY15.

Identification of processors to support took longer than expected due to difficulties in locating micro and small enterprises that are willing to cost-share on required processing investments. In FY15, USAID FED will reconsider the policy of 50-50 cost-sharing; it has become evident that micro enterprises do not have sufficient resources to cover 50 percent of the cost.

Planting of cassava traditionally takes place from June to November. However, processors need cassava tubers as their raw material year-round. Insufficient water during the dry season prevents the farmers from planting from December to May. In FY15, USAID FED will work with CARI and MoA to find an economical way to provide the supply needed by processors on a year-round basis and to subsequently harvest every month after one year.

Support to micro and small cassava processing enterprises will ensure markets for the incremental production and timely sale of cassava tubers. However, there is a need to support aggregation and transportation of cassavas tubers from the farm to the processors due to the bulky nature of the product. Supporting the establishment of aggregation points and transportation infrastructure will enable farmers to conveniently transport their produce to processors within the clusters.

## Task 1C: Increased production and profitability of the Goat Value Chain

### Principal objectives for FY14

During FY14, FED's principal objectives pursued under increased production and profitability of the Goat Value Chain were as follows:

1. To establish 84 new goat production intensification sites across four counties, and reach a total of 2,080 direct beneficiaries supported by 208 trained Community Animal Health Workers (CAHWs), providing access to veterinary drugs and supplies through eight agro-pharmacists in the rural areas;
2. To carry out trainings and practical demonstrations on critical management practices for improved goat production and marketing strategies, as well as planned interventions to result in an additional 1,200 goats available for marketing;
3. To reduce infrastructure costs of the farmer demonstration sites by approximately 50 percent through increased reliance on beneficiary contributions;
4. To improve production and survival rates of goat herds by extending improved management practices, animal health services, and improved breeds superior to producer groups;
5. To strengthen the MoA's capacity to meet the demand for vaccinations and endemic disease diagnosis and surveillance;
6. To establish functional quarantine and nucleus breeding herd facilities in CARI.

## Activity specific results

### **Activity IC.1 MoA Capacity-Building and National Livestock Vaccination Campaigns**

In FY14, FED contracted BRAC to implement the national *Peste des petits ruminants* (PPR) vaccination campaign in collaboration with the MoA across Liberia. This activity was expected to reach 150,000 heads of animals across Liberia. The PPR vaccination campaign, set for implementation in January and February 2014, was delayed due to internal communication process requirement within the main implementing partner, BRAC of Bangladesh. The contractual process with BRAC was completed and the exercise was scheduled to start by August 2014. However, implementation of the vaccination campaign was deferred by BRAC due to the Ebola outbreak.

### **Activity IC.2 Expand Community Goat Pass-on Schemes as Demonstration/Training Sites**

In FY14, FED established a total of 84 goat production intensification sites (Bong, 30 in Nimba, 20 in Lofa and nine in Grand Bassa). The identification of these goat groups was based on whether there was an existing goat herd, their willingness to use proposed sites as demonstration sites for training, and their willingness to provide raw material for goat shelter construction. These criteria are in line with FY14 planning, which stipulated that new sites in 2014 would rely more on farmers' contributions for shelter materials. As laid out in the FY14 work plan, FED provided goat shelter materials such as galvanized wires for fencing, zinc for roofing, and nails.

In addition, FED contracted and trained a total of 28 local carpenters in goat shelter construction and maintenance. These carpenters constructed 252 shelters at the 84 sites (three shelters per site –general, maternity and quarantine) in the counties. These established production-intensification sites currently benefit 2,060 farmers (1,260 men, 800 women) directly with a herd size of 5,419 goats (3,359 does, 860 bucks and 1,200 kids). These sites are currently being used as enclosures for animals as well as trainings sites. This number of beneficiaries is slightly below the target of 2,080. This is due to the fact that some goat producer groups had memberships that are less than 20 but still maintained acceptable herd sizes. In light of this, these sites extended improved production practices to an additional 2,940 indirect beneficiaries instead of 2,920, thereby allowing the project to meet its 5,000 target beneficiaries set for FY14.

Table 8: FY14 Goat farmer recruitment and total number of goats

County	FY14 Farmer Target	# of Farmers Recruited for FY14	# of Male Farmers	# of Female Farmers	Total # of Goats YTD FY14	# Does	# Bucks	# Kids
Nimba	600	693	341	296	826	527	140	181
Grand Bassa	180	275	166	111	815	452	184	204
Bong	500	596	493	179	1954	1,297	388	441
Lofa	400	496	260	214	1605	1083	148	374
<b>TOTAL</b>	<b>1,680</b>	<b>2,060</b>	<b>1,260</b>	<b>800</b>	<b>5,200</b>	<b>3,359</b>	<b>860</b>	<b>1,200</b>

Figure 13: Completed goat maternity shelter at Zoedo Goat Farmer Association, Nimba County



In addition, FED was able to train: 84 Lead Farmers in routine goat herd production and management; 147 cattle chairmen in salt/mineral lick fabrication (to benefit 2,940 goat farmers around the established demonstration sites, exceeding the FY14 goal of 2,929); and, 19 goat value chain extension assistants on basic herd production, record-keeping as well as mineral lick preparation in the production intensification sites in the counties. FED has also ear-tagged 404 goats by end of September 2014.

### **Activity 1C.3 Training of Community Animal Health Workers (CAHWs) and Agro-pharmacists**

To address goat health under improved management practices at the production intensification sites, FED in FY14 trained a total of 204 women CAHWs (36 in FY13 and 168 in FY14) in goat disease-diagnostics, treatment, prevention, and handling of veterinary pharmaceuticals. The training was conducted by highly experienced livestock extension agents along with a Cornell University College of Veterinary Medicine student-volunteer. The student-volunteer was in Liberia through Cornell University's Expanded Horizons Program. All 204 CAHWs received start-up kits containing syringes, cooler, needles and most critical animal health pharmaceuticals (anti-parasitic, anti-bacterial and multi-vitamin). Eight rural pharmacies in each county were trained in the use and acquisition of most frequently used goat health drugs. They were also introduced to the newly trained CAHWs. First stocks of required goat health drugs were made available to the rural pharmacies through a 100-percent goat voucher subsidy program implemented by FED.

Figure 14: A CAHW vaccinating a goat in practical session during the training event.



#### **Activity 1C.4 Establishment of Animal Quarantine**

In Q2 of FY14, the construction of the CARI Livestock Quarantine Facility was completed. FED also completed a Quarantine Facility Management Guide to be used for strategic guidance on the management needs of this facility. This facility has the capacity to shelter 500 animals, as set forth in the FY14 work plan. The facility was inaugurated by U.S. Ambassador Deborah Malac in early April.

USDA is funding the importation of goats into Liberia for restocking herds lost in the war through the Food for Progress project implemented by Land O'Lakes (LOL). Imported goats require at least two-to-three weeks of quarantining to make sure that they will not be introducing diseases to Liberian herds. FED rehabilitated the national quarantine facility at CARI in Bong to serve the purpose of quarantining imported animals in Liberia. LOL imported 209 goats from Guinea, the first batch out of the planned 6,000 to be imported. This initial batch was quarantined at the CARI facility. Toward diversifying the genetic makeup of indigenous goat herds and reducing inbreeding within the local herds, FED received 30 imported bucks out of the first batch of 209 imported goats under the USDA/LOL program. These imported bucks were distributed to 15 goat production sites in Nimba County.

*Figure 15: U.S. Ambassador Deborah Malac together with Deputy Minister for Administration Seklau Wiles (MoA), FED Chief Of Party Agnes Luz opening the CARI Quarantine Facility in Suakoko, Bong County*



*Figure 16: USAID FED Livestock Specialist, Morris Karnuah, selects bucks from the 209 imported goats at the CARI Livestock Quarantine Facility, Bong County.*



### **Activity IC.5 Establishment of Nucleus Breeding Herd at CARI**

FED intended to establish a sustainable source of improved goats through a nucleus breeding herd at CARI. This activity was to be carried out in collaboration with USDA/LOL and CARI. USDA/LOL was supposed to import the nucleus breeding herd while FED was to assist in the establishment of a structure for the housing of the herd. However, this activity was not implemented due to delays and issues experienced by LOL in the initial importation of the goats. FED believes that further study is needed in the treatment and prevention of mortalities of imported goats due to shipping stresses before the creation of a nucleus breeding herd at CARI can begin. This will be investigated in FY15.

### **Activity IC.6 Marketing Training Assistance**

The demand for goat meat in Liberia is increasing considerably as goat traders continued to travel to surrounding countries such as Guinea, Sierra Leone and Ivory Coast to purchase goats for supply in Liberia. As part of the FY14 plans to help develop the marketing and sale of goats toward meeting this expanding domestic demand in Liberia, FED encouraged farmers in the established production intensification sites to put their animals into the market. A total of 1,651 goats were sold across Bong, Nimba, Lofa and Grand Bassa, worth US\$106,036 cumulatively during FY14. In addition, FED implemented a pilot marketing activity in Nimba, bringing together goat producers and local traders from various districts in the county. Several local traders from Monrovia also participated in the event. The purpose of this activity was to create linkages between goat farmers and traders.

Table 9: Goat sales in September 2014 and FY14.

County	# of Goats Sold by Aug 2014	Total Value of Goats Sold by Aug (USD)	# of Goats Sold in Sept 2014	Total Value of Goats Sold in Sept 2014 (USD)	# of Goats Sold YTD	Total Value of Goats Sold YTD (USD)
Nimba	118	\$8,170.00	15	\$670	133	\$8,840
Grand Bassa	175	\$11,130.00	9	\$480	184	\$11,610
Bong	685	\$49,525.00	135	\$11,075	820	\$60,600
Lofa	474	\$23,431.00	40	\$1,555	514	\$24,986
<b>TOTAL</b>	<b>1452</b>	<b>\$92,256.00</b>	<b>199</b>	<b>\$13,780.00</b>	<b>1,651</b>	<b>\$106,036.00</b>

### **Activity IC.7 Assist MoA with Validating the National Livestock Policy Guidelines**

The Organization of African States / International Bureau of Animal Resources (OAS/IBAR) Program is implementing a mechanism to bring about stakeholder involvement in all such validation exercises. The OAS/IBAR program will implement the validation exercise of the draft policy guidelines now being reviewed informally within MoA. FED is in contact with the MoA for any assistance needed with this activity.

### **Lessons learned**

#### **a. Importing breed stocks**

The anticipated importation of 500 improved, trypanosome-tolerant breed stocks by Land O'Lakes from The Gambia was not realized due to the logistical challenges of shipping the herds to Liberia by road. Land O'Lakes imported 209 goats from Guinea. Due to the length of time the goats were held in quarantine at the border and the stress of the road travel, 44 goats out of 163 delivered died, resulting in a relatively

high 27 percent mortality rate. LOL should find ways to reduce the travel and quarantine time involved in importing goats from The Gambia.

#### **b. Goat shelter construction**

FED has learned several lessons from the goat shelter construction in FY14. First, it is possible to establish cost-effective shelters through material sourced locally by local communities. The team asked farmers to provide wood, a resource they readily had access to. This in-kind contribution has been a driving factor in the success of establishing the shelters. Additionally, the timely construction of these shelters proved to be a challenge; procuring the necessary materials and building the shelters required a significant amount of time and effort from the county teams. 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 for shelter herd management, more sustainable finance options also need to be explored to address the costs of establishing such herd shelter options. Among these options are the Village Savings and Loan Associations (VSLA) and Micro-Finance Institutions (MFIs). Concurrent studies aimed at reducing the cost of building shelters should also be explored and pilot-tested.

#### **c. Goat pass-on scheme**

The goat “pass-on scheme” approach has evolved from its original form. Initially, the project envisioned that farmers would pass on strong goats from their herds to outside groups to continue to strengthen the general goat population. However, farmers wound up being reluctant to share their animals with others outside of their communities. As a result, the pass-on scheme, or the plan to share strong animals was practiced only locally, within the same group or community. The growth of group-owned and managed goat herd is the major motivation for the adoption of technologies seen among group members and surrounding satellite extension farmers.

## **Task 1D: Vegetable Value Chain Development**

### **Principal objectives for FY14**

During FY14, FED’s principal objectives pursued under the Vegetable Value Chain Development were as follows:

1. To demonstrate profitable agriculture through high-value horticulture to farmers in peri-urban areas, through demonstrations that included improved handling methods, affordable facilities linkages with buyers in targeted markets;
2. To facilitate the growing of high-value vegetables and promote linkages between farmers and commercial buyers;
3. To support direct access to market channels for farmers via clusters using the Lead Farmer model to conduct trainings, gather data and establish community vegetable collection centers;
4. To support dry-season production all year by helping farmers to set up irrigation systems;
5. To support seed producers in accessing quality local seeds by supporting seed multiplication efforts;
6. To facilitate access to finance between farming groups and local microfinance institutions; and
7. To pilot the use of rain shelters during the wet season.

### **Activity specific results**

#### **Activity 1D.1 Dry Season 1 (Oct - Jan) production activities**



During the dry season 1 production period, the selection and recruitment of beneficiaries of this activity aimed at producing high-value vegetable varieties was completed. An initial number of 354 farmers in 20 clusters were engaged and provided with tools, seeds and agro-chemicals.

Table 10: FY14 PUA farmer recruitment

County	# of Clusters	FY14 Farmer Targets	FY14 Target Ha	Male	Female	Total	Hectares
Montserrado	6	108	27	79	33	112	28
Margibi	8	144	36	110	34	144	36
Nimba	4	36	9	45	28	73	18.25
Bassa	2	72	18	15	10	25	6.25
<b>TOTAL</b>	<b>20</b>	<b>360</b>	<b>90</b>	<b>249</b>	<b>105</b>	<b>354</b>	<b>88.5</b>

As planned in FY14, FED conducted a ToT for the 20 Lead Farmers (19 male, one female) from the identified clusters. The Lead Farmers were trained on improved production practices, seedling production, voucher/input distribution, water management, post-harvest handling, financial record-keeping and marketing, environmental considerations, and composting. After delivery of inputs, the Lead Farmers completed planting in December 2013.

#### **Activity 1D.2 Dry Season 2 (Jan - May) production activities**

During the dry season 2 production period, the 20 clusters carried out land preparation, field layout and nursery construction. FED provided each cluster with tools, seeds and fertilizer. In line with the FY14 work plan, FED also completed the voucher program registration and distribution exercise in collaboration with Wienco, an agro-input supply company.

The 20 clusters were provided with 360 drip irrigation kits as planned. They were also trained on installation and management of the technology in collaboration with Gro Green.

Figure 17: Installation of drip irrigation technology at Gbofella, Margibi Cluster



Sixteen clusters were supported to acquire motorized water pumps through a 50-percent cost-share arrangement with FED. The water pumps facilitated irrigation of crops during the dry season.

Figure 18: Distribution of a motorized pump at Low Cost Village, Bensonville.



An additional cluster – Mulleh farm cluster in Caresbury, Montserrado County – with a total of 19 farmers, was later included as one of USAID FED's vegetable clusters. This brings the total to 21 clusters cultivating 116.23 hectares. In May, FED distributed a total of 10 drip irrigation kits to farmers in the newly added cluster.

Table 11: FY14 farmers recruited

County	FY14 cluster target	FY14 farmer targets	FY14 target Ha	Number of clusters	Hectare	Total # of beneficiaries		
						Males	Females	Total
Montserrado	6	108	27	7	30.43	97	40	137
Margibi	8	144	36	8	61.3	110	34	144
Bassa	2	72	18	2	6.25	15	10	25
Nimba	4	36	9	4	18.25	45	28	73
<b>TOTAL</b>	<b>20</b>	<b>360</b>	<b>90</b>	<b>21</b>	<b>116.23</b>	<b>267</b>	<b>112</b>	<b>379</b>

During the dry season 2 production period, a total of 379 vegetable farmers (267 male and 112 female) in 21 clusters in Montserrado, Margibi, Grand Bassa and Nimba counties planted local pepper, bitter ball, cucumber, lettuce, watermelon and sweet corn. By the end of the dry season production period for FY14 in May, a total of 37.25 MT of vegetables have been harvested and sold at a value of US\$32,096.58.

### Activity 1D.3 Rainy Season 2 production activities - Protected Cultivation

Gro Green began installation of greenhouses in a cluster in Mawah in Montserrado County to demonstrate protective cultivation to farmers. However, due to the delays in importation and installation of greenhouses by the vendor, it was not possible for FED to demonstrate protected cultivation during the wet season from June to September 2014. Only one green house was installed at Mawah cluster in Montserrado County. Installation of additional greenhouses to the 20 clusters was challenged by the heavy rains and restrictions on movement due to the Ebola crisis.

Figure 19: Installation of greenhouse at Mawah cluster. Montserrado County



Figure 20: Laying of beds in the greenhouse



## **Pest and Disease Management**

In FY14, FED monitored pest and disease prevalence in 15 districts in Montserrado County and two districts in Nimba County. The farmers noted infestations were largely responsible for the significant drop in yield.

STTA Emmanuel Owusu undertook an assessment of pest and disease prevalence, and recommended sourcing a broader range of pesticides and chemicals that farmers can use. The commonly used broad-spectrum chemicals such as *Decis* appeared to be ineffective. Further, a TOT on Good Agricultural Practices and Integrated Pest Management was held for the vegetable clusters between July 15 and 17 in

Kakata, Margibi County. A total of 30 individuals (three women and 27 men) participated in the ToT sessions, including 21 Lead Farmers, five extension officers, two representatives from MoA and two youth observers. At the end of the training, the participants were able to identify common pests and diseases affecting vegetables.

By the end of September, the 21 vegetable clusters produced a total of 134.5 MT of assorted vegetables which were sold for US\$65,471.40.

Table 12: FY14 vegetable sales

County/Cluster	Annual Volume of sales (Kgs)	Annual Value of sales (USD)
<b>Montserrado</b>		
Bokays Town	4,302.20	2,556.36
CGCWEP Vegetables	8,827.30	4,658.99
Central White Plane	4,229.00	1,823.72
Low Cost Village	4,161.50	3,201.18
Kollieman Town	1,178.00	488.63
Mawah Farmers Association	10,564.00	10,833.18
Mulleh Farm	8,215.00	7,483.93
<b>Sub Total</b>	<b>41,477.00</b>	<b>31,045.99</b>
<b>Nimba</b>		
Yekepa	6,243.70	4,156.81
Sanniquelleh	8,032.00	914.80
Ganta	1,714.00	1,493.18
Gbedin	5,835.00	1,925.08
<b>Sub Total</b>	<b>21,824.70</b>	<b>8,489.87</b>
<b>Margibi</b>		
Kpoyea's Town	6,192.00	1,454.98
Joeblow Town	10,783.00	2,895.47
Kollie Kan Ta	11,678.00	4,070.85
Francis Lewis	12,949.10	4,993.62
Weala	8,690.00	4,418.02
Nyanka Ta	8,923.00	3,231.16
Gbofellah	4,307.00	1,961.30
Horton Farm	6,356.00	1,813.94
<b>Sub Total</b>	<b>69,878.10</b>	<b>24,839.34</b>
<b>Grand Bassa</b>		0.00
Tubmanville	440.87	480.40
New Buchanan	879.00	615.80
<b>Sub Total</b>	<b>1,319.87</b>	<b>1,096.20</b>
<b>TOTAL</b>	<b>134,499.67</b>	<b>65,471.40</b>

#### **Activity 1D.4 Farmer field days**

The Farmer Field Day activity was intended to showcase new technologies demonstrated under the vegetable program to a wide range of non-FED farmers. However, FED decided to call off this activity since surrounding farmers within the clusters can already see how FED-supported farmers are benefitting from the new technologies. Those who attended the ToT were able to pass on the knowledge gained from the training to the other farmers in the community.

#### **Activity 1D.5 Solar Dryer construction and training**

In FY14, FED planned to train the 20 vegetable clusters on fabrication of solar dryers. These solar dryers would be used to dry chili pepper to extend the shelf life of the commodity. FED conducted 4 training sessions in Nimba, Grand Bassa, Margibi and Montserrado. A total of 66 participants (57 Male, 9 female) were trained in the fabrication. Each county also included a carpenter who assisted in fabricating one prototype. While it was anticipated that each cluster would fabricate at least 1 solar dryer after the training, only 2 solar dryers were fabricated in Margibi county based on demand by individual farmers.

*Table 13: FY14 Solar Drying*

<b>County</b>	<b># of Clusters targeted</b>	<b>Total # of participants trained</b>	<b># of Male</b>	<b># of Female</b>	<b># of solar Dryer constructed during training</b>	<b># of solar dryer constructed after training</b>
Montserrado	6	20	14	6	1	0
Margibi	8	26	25	1	1	2
Nimba	4	12	10	2	1	0
Grand Bassa	2	8	8	0	1	0
<b>TOTAL</b>	<b>20</b>	<b>66</b>	<b>57</b>	<b>9</b>	<b>4</b>	<b>2</b>

The average cost of making one solar dryer is between US\$75 and \$200, making it affordable for most farmers. During the training, the farmers used the dryers that were constructed in each of their counties to dry pepper. The trainees also received simplified illustrated fabrication guides to help them with their work. These solar dryers will be used to dry chili pepper to extend its shelf life.

*Figure 21: Training with PUA clusters in Buchanan, Grand Bassa County on construction and use of solar dryers*





#### **Activity ID.6 Seed producer training**

To maintain the continuous supply of viable local seeds (cayenne pepper, cow pea and peanuts), 23 FED vegetable seedling producers –11 more beneficiaries than originally planned in FY14 – were trained in Grand Bassa and Nimba counties on the production of seeds and seedlings in January 2014. The trial indicated high level of germination rates, with a high susceptibility to water during the rainy season. In Nimba County, two seedling producers sold 20,510 chili pepper seedlings for US\$205.

Seed trials were conducted on vegetable seeds where cucumbers and okra seeds were directly seeded in open fields. It showed a germination rate of 85 percent, which was in line with the project's FY14 target for this activity. Others such as hot pepper, bitter ball, tomatoes, lettuce and African eggplant were planted in nurseries and all showed an average of 88 percent germination rate, exceeding FED's target. The seed trial was conducted in Mawah cluster, Montserrado County to test for high viability, adaptability and germination of seeds to be cultivated in FY15.

*Figure 22: Established trial plot in green house at Mawah cluster, Montserrado County*



#### **Activity ID.7 Pilot program for vegetable production for export**

In FY14, FED supported Grain Coast Inc., a Liberian-owned company, to explore the modalities of piloting production of high quality okra, eggplant (ravaya), Chinese cucumber (luffa) and chillies (Mi2) for export to VS. Compagnie (VS.CO), a French company that specializes in importation of exotic African vegetables for the high-end Parisian market. FED facilitated linkages between GCI and Sidley Austin (SA), a global law firm that, in addition to its wide array of legal portfolios, provides pro bono legal services to organizations that otherwise would be unable to afford legal representation. SA supported GCI with drafting a viable contract with VS. CO. Through this legal assistance, both parties signed an agreement in June. 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 of chillies (Mi2) every week.

FED and Grain Coast Inc. were to partner through cost-share arrangements toward establishing an out-grower supply chain for production of high-value export quality vegetables. Grain Coast Inc. was to invest US\$25,000 for the development of an out-grower model that would ensure adequate volumes of vegetables for export. However, during the implementation year, Grain Coast Inc. was only able to mobilize US\$4,500 in resources through an online, crowd-sourcing, fund-raising drive. As a result, FED



and Grain Coast were not able to sign a Memorandum of Understanding (MOU). The Ebola outbreak further brought a halt to farmer recruitment for this exercise. The out-grower model will be established during Q1 of FY15.

#### **Activity 1D.8 Community collection centers**

The 20 clusters constructed 20 collection centers for sorting, grading and marketing of their vegetables. The farmers provided local materials and labor for the construction of the collection centers as their 50-percent cost-share, which amounted to US\$60.00 per collection center. The farmers completely built the collection centers on their own while FED provided the weighing scales, washing tubs, ledgers books, calculators, blackboards and plastic crates. FED also coached 104 participants (54 male, 49 female) from farming groups on record-keeping, focusing on the importance of maintaining records, analyzing running costs and profits generated. This mentorship is part of FED's strategy to ensure profitability and sustainability of operations in the collection centers, as outlined in FY14 planning.

The main purpose for the establishment of the collection center is to facilitate bulk or collective marketing. However, there have been challenges that hampered effective use of the collection centers. Most of the farmers are used to doing individual marketing and found it challenging to work with other farmers in a collective fashion. The lack of trust among farmers also hindered the productivity of this activity. An experienced marketing specialist with experience in operationalizing collective marketing among farmers would be needed to help make this approach work.

*Figure 23: Community Collection Center in Margibi County*



*Figure 24: ROSNA Manager signing contracts for Yekepa Cluster in Nimba County*



**Activity ID.9 Support for traders, Go Buy Chop Women**

FED conducted two trader support activities with Lead Farmers and traders/aggregators from Montserrado, Margibi, Nimba and Grand Bassa counties. The activities were intended to establish market linkages between PUA clusters and identified markets for the sale of high-value vegetables. The first event of the trader-support activity was conducted with Go Buy Chop Women in Red Light Market in Monrovia with 70 participants (40 male and 30 female) in February 2014. The second event was held in Ganta, Nimba County with 15 participants (11 males and four females) in June 2014. Participants received training on basic record-keeping and contracts, to help them fully understand relationships with traders and aggregators, as planned in FY14. The outcome of this meeting led to the formalization of the business relationship through the signing of MoU between the farmers, vegetable trader and the Go Buy Chop Women which resulted in sales amounting to US\$65,471.40.

During the second event, the Yekepa Cluster negotiated with Liberian catering firm ROSNA Services on quality, quantity, prices, procedures, schedules and the consistency required for a contractual agreement. At the end of the event, both sides agreed to enter into a purchasing contract to formalize the partnership. ROSNA procured a total of 1.9 MT of vegetables valued at US\$3,345 in September. ROSNA has also signed a similar agreement with the Tubmanville vegetable cluster in Buchanan, Grand Bassa. After signing the agreement, ROSNA made an initial purchase of 258 kg of vegetables valued at US\$283.00.

**Activity ID.10 Support for traders - Monrovia Vegetable Sellers Association**

FED facilitated a meeting between the Monrovia Vegetable Sellers Association and vegetable farmers to formalize contractual business relationships between the two parties and support the association's organizational development as planned in FY14. The purpose of the platform was to stimulate purchase agreements and information-sharing between supported clusters and traders. A total of 20 formal contracts were signed between 20 members of the Monrovia Vegetable Sellers Association and 21 USAID FED-supported vegetable clusters towards regular supply of vegetables. As a result of these agreements, Monrovia Vegetable Sellers Association purchased a total of 42 MT of vegetables valued at US\$80,581.30.

During FY14, vegetable groups supported in FY13 and assisted through VSLAs traded a total of 117 MT of vegetables valued at US\$35,162.63.

Table 14: FY14 sales from traders

<b>Group</b>	<b>Total volume traded for FY 14 (Kgs)</b>	<b>Total Value traded for FY14 (USD)</b>
Monrovia Vegetable Marketing Association	42,356.00	80,581.30
Kukutona (FY13 VSLA Group)	9,800.00	3,357.00
United Farmers Association (FY13 VSLA Group)	28,350.00	14,959.38
Zoedoar Farmers Association (FY13 VSLA Group)	57,450.00	10,761.25
Menlehkoyee (FY13 VSLA Group)	21,000.00	6,085.00
<b>TOTAL</b>	<b>158,956.00</b>	<b>115,743.93</b>

Note that the four farmers groups listed sold more products for less money than the Monrovia Vegetable Marketing Association. This is because most of these farmers sold their vegetables at the farm gate, while the marketing association sold their products to supermarkets and were able to command much higher prices.

**Activity ID.11 Cold storage and packaging support**

FED provided the 20 clusters with a total of 1,440 plastic crates (four crates per farmer) that the farmers will use when harvesting and transporting their vegetables. The plastic crates represent improved

packaging that is expected to result in less compacting and bruising of the fresh produce leading to reduced post-harvest losses. Each cluster selected two female members to serve as the collection center coordinators.

In addition, FED distributed a total of 65 vegetable crates for aggregating and transporting vegetables to 15 members of the Monrovia Vegetable Sellers Association. These crates will assist traders in reducing post-harvest losses when vegetables are transported from the clusters to the markets.

*Figure 25: Monrovia vegetable sellers association receiving crates.*



In May, STTA Emmanuel Owusu conducted an assessment of the potential of establishing low-cost cold storage facilities within the clusters to set the groundwork for piloting a cold chain for delivery of fresh produce as planned in FY14. The consultant visited markets and storage facilities in Montserrado, Margibi, Nimba and Grand Bassa to assess post-harvest handling. A presentation and report was submitted to FED. It was recommended that low-cost charcoal coolers could be piloted to test their effectiveness in reducing post-harvest losses. Establishing refrigerated cooling facilities with private firms such as ROSNA and Grain Coast was found to be expensive, and could only be achieved through cost-share arrangements and if there were adequate and steady volumes of vegetable supply available. These refrigerated facilities have to be imported because they are unavailable locally in Liberia. This range of cold storage pilots with clusters and private firms will be carried out in FY15.

#### **Activity 1D.12 Rapid market assessments**

In August, a vegetable market assessment exercise was conducted in Grand Bassa County to identify and map out additional markets for the sale of vegetables in FY15. The assessment revealed seven potential markets along the Montserrado and Grand Bassa corridor that are trading predominately in cucumber, eggplant and okra. The traders in these markets will be linked to vegetable clusters during FY15.

Most of the vegetables sold in the markets in Buchanan come from Bong County. Only a few of these local vegetables come from Compound #3 in Grand Bassa County and River Cess County. The Chairwoman of the Buchanan General Market (LMA) was very helpful in providing some of the above information to the FED team. According to her, about 95 percent of the vegetables sold in the Buchanan market come from Bong County every Thursday and Saturday.

Most of the market women expressed their willingness to buy from vegetable farmers from Grand Bassa County. They said that this will help reduce the cost due to the high cost of transportation. It will also

reduce damage due to the long time it takes to transport the vegetables. One vegetable trader said that due to the long distance they have to travel to buy the vegetables, the shelf life of the vegetable is reduced. Most of these traders do not have the appropriate storage facilities to store their vegetables for long periods of time.

There are three primary markets in Buchanan City: Monrovia Junction Market, Buchanan General Market and Tubman Street Market, along with two secondary markets, Gorzohn Market and Pipe Lines Junction Market.

During the mapping exercise, the project also spoke with leaders of the women selling in the markets in Buchanan. They expressed their willingness to buy from any farmer who will ensure the constant supply of local and exotic vegetables. The market women said that this will help reduce the challenges they encounter in obtaining vegetable produce from far away farmers, most especially from Biallah in Bong County where they source most of their vegetables. There is no set pricing structure in place. Prices are determined by the trader according to the production season.

## **Lessons learned**

### ***a. Supporting the adoption of improved farming technologies***

FY14 implementation focused on imparting knowledge of and skills in improved technologies in the production of high-value vegetables. A total of 379 farmers in 21 clusters were supported. While these farmers actively participated in the program, a majority of them continued to produce local vegetables outside of the demonstration plots because local vegetables are in high demand in the local markets. It is evident that a combination of local and high-value vegetables should be supported to cater both to local and high-value markets. Improved technologies to be supported should give emphasis to integrated pest and disease management both in farmers' fields and in greenhouses. Pests and diseases are major sources of production losses.

### ***b. Voucher program***

The lessons learned under the FY14 voucher program indicate that a different strategy or approach may be required towards facilitating access to affordable inputs such as seed, fertilizer and pesticides. The appropriate seed and pesticide applications have been identified in FY14, based on assessments of prevalent pests and diseases that are common in the fields. Farmers trained through the demonstration plots showed an appreciation of the techniques demonstrated by FED experts.

### ***c. Financial planning***

Farmers should be assisted in planning their cash flows and production based on the dynamics of market requirements. Through Component 2, financing requirements for farmers should be assessed and farmers in need should be linked to possible financing options to enable them to procure inputs. In FY14, the 50-percent subsidy on inputs under the voucher system was not enough incentive for farmers to adopt new technologies on their individual farms.

### ***d. Access to inputs***

Future effort to facilitate access to inputs should consider encouraging entrepreneurs at the county levels to become agro-dealers. This can be done by providing start-up cost-share, rural marketing and extension and strengthening their capacities through training on entrepreneurship. The goal is to ensure farmers understand their products and receive after-sales services. These agro-dealers can be linked to major agro-input supplier companies either as franchises or agents. This approach has the ability to ensure that farmers have immediate access to inputs locally while receiving embedded services on technical information. One of the agro-dealers working with Wience through the voucher program demonstrated

the highest redemption within her zone of influence due to her farm gate marketing strategies and follow-up with farmers.

**e. Expansion of market platforms**

In FY14, facilitating purchase agreements between traders in Monrovia and ROSNA provided vegetable farmers with an incentive to produce both high-value and local vegetables for these markets. These marketing platforms should be expanded to reach more vegetable farmers across the counties. For example, traders associations in major cities within FED-supported counties could be identified and directly linked with new vegetable clusters to ensure market access. These traders associations could be supported in establishing consistent supply chains that deliver vegetables to local markets. New entrepreneurs, especially the youth, could be identified within the clusters to serve as Lead Farmers and aggregators for institutional buyers such as ROSNA and Grain Coast.

## **Subtask 1.1: Special Studies and MoA Data Collection System Development**

### **Principal Objective for FY14**

The principal objective focused on establishing and supporting the MoA's monitoring and evaluation (M&E) presence in the four main counties. This support will not only involve the physical presence of a MoA M&E staff member, but the channeling of substantive studies and surveys into the ministry aimed at helping it improve planning, decision-making, and monitoring of MoA-related field activities and those of the donor community.

A second principal objective is to provide additional studies and surveys that will enable FED to make more informed decisions related to the delivery of technologies and enterprise support aimed at improving food security and increasing incomes for farm households in the targeted areas.

### **Activity Specific Results**

#### **Activity 1.1.1 Supporting Establishment of a Data Collection System for MoA**

In Q1 of FY14, FED collaborated with the MoA's M&E officers on a field trip to explore and initiate a pilot M&E effort at the county level. Bong County has been chosen to initiate the effort. A proposal was drafted collaboratively between the M&E unit of the MoA and FED to define the roles of each participant. Consequently, Dr. Charles McClain, MoA Deputy Minister for Planning, wrote an official letter to FED requesting it to support the pilot program.

Due to insufficiency of MoA's budget to support additional personnel at the county level, USAID FED suggested to the MoA to include M&E in the scope of work (SOW) of extension officers at the county level. This was received favorably by the MoA, and it was agreed to pilot the set-up in Bong County.

In Q4, FED provided MoA with the following equipment to support the piloting of the M&E function in the Bong County office of the MoA:

- One motorbike
- Four Garmin Global Positioning Satellite (GPS) devices
- Four Elite Book laptops
- One printer
- Four Personal Digital Assistants (PDA)

- Four portable Internet modems with initial subscription

The MoA in a communication to FED in September requested an extension of the commencement of the M&E Pilot Project in Bong from December 2014 to May 2015 due to the high cases of the Ebola Virus Disease at the time. However, due to a decline in the number of new Ebola cases, the M&E team has begun discussions with the MoA to commence the project implementation. A Scope of Work is being developed for a Senior M&E Officer to be recruited by FED to work on the objective of strengthening the MoA M&E capacity.

USAID FED's M&E Team has also drafted data-collection, monitoring and reporting tools that will be discussed and finalized with the MoA M&E Team.

Additionally, FED has started designing an online database system that will initially be used within FED, but will eventually be transferred to the MoA to link the M&E Department in Monrovia with the counties. A SOW was developed and discussed with all parties. The process of recruiting a firm to design and install the software system is currently ongoing. FED is also recruiting a data management specialist who will be assisting FED and the MoA in this critical activity. A collaborative discussion was initiated in this regard between FED and the MoA. A technical team is being determined to handle this collaboration with the leadership of the Senior Data Management staff.

Additionally, USAID FED has reviewed the Liberia Agriculture Sector Investment Program (LASIP) document and held a series of meetings with the MoA M&E director to review their targets and indicators that overlap with the LASIP document. The FED M&E team will consider these indicators for data collection and reporting by the extension officers who have been trained by USAID FED.

### ***Activity 1.1.2 Conducting Special Studies and Surveys***

The following studies and surveys were conducted from October 2013 to September 2014:

#### **I. Rapid Rural Appraisal**

USAID FED subcontracted DEN-L, a local NGO, to carry out rapid rural appraisal (RRA). The RRA was started in March 2014 and was slated to be completed in June 2014, with the report finalized in July. However, when DEN-L did its presentation in June on its findings, it was realized that they misunderstood a substantial portion of the SOW. A series of meetings were conducted that led to an agreement on a revised SOW toward the end of July.

Revised SOW for the Rapid Rural Appraisal:

The RRA will first identify four categories of lowland areas (both cultivated and with potential for cultivation) within Lofa, Bong, Nimba and Grand Bassa counties but outside of areas already supported by USAID FED, and then categorize them as follows:

- Lowlands less than 2 hectares
- Lowlands that are more than 2 hectares but less than 5 hectares
- Lowlands that are between 5 and 10 hectares
- Lowlands that are above 10 hectares

The RRA will also identify all the major production areas outside of areas already supported by USAID FED for rice, cassava, vegetables and goats in Lofa, Bong, Nimba and Grand Bassa counties with emphasis on the following:



- a) Mapping of production for value chain clusters that have the potential to sufficiently feed raw materials to processing mills or deliver bulk produce to large buyers. Production Clusters are classified as:
  - Rice: approximately 150 hectares of historically cultivated upland and lowland located within close proximity (areas with rice production concentration) to each other
  - Cassava: approximately 100 hectares of land planted within close proximity (high cassava production areas) to each other
  - Vegetable: a minimum of 3 hectares of land planted by a minimum of 15 farming households within close proximity
  - Goat: location of communities with a minimum of 100 goats within close proximity (high goat concentration areas) to each other, indicative of the goat owners
- b) Mapping of locations where active and regular markets exist for rice, cassava, vegetable and goat commodities with distance measurements. These should include USAID FED-supported areas.
- c) Determine selling patterns of rice, cassava, vegetables and goats. For example, how much of each commodity is sold, how often each commodity is sold, when do the sales of these commodities take place, how many people are estimated to sell each commodity, the buyer's profile and whether there are unmet demands for each commodity. These should include USAID FED-supported areas.
- d) Determine buying patterns for household consumption for each of USAID FED's commodities. For example, how much of household income is spent on rice, cassava, vegetables and, goats? How often do they buy these commodities and where?
- e) Who are the donors operating in the area and what are their interventions? These should include USAID FED-supported areas.

The RRA will identify existing processing and storage facilities for the value chains in Lofa, Bong, Nimba and Grand Bassa counties with emphasis on the following:

- a) Rice: Identify location, determine size (cubic meters), current state (operational or not), and map locations of storage facilities.
- b) All value chains: Identify location, determine capacity (output capacity), current utilization and prepare a map of processing facilities (including slaughterhouses for goats).
- c) All value chains: Identify location, determine size (cubic meters), current use, and map locations of collection centers, trading hub, aggregation points or buying stations for the USAID FED value chains, specify which commodities they are used for, and who owns the center.

Finally, the RRA will identify support services for agriculture, especially for the value chains in the four counties. Such support services will include: mechanized services, input suppliers/agro-dealers, and financial lending institutions that support agriculture. Identify private entrepreneurs and others involved with bulk-buying of rice, cassava, vegetables and goats in Lofa, Bong, Nimba and Grand Bassa counties.

DEN-L agreed to carry out the work without additional cost to FED, and FED agreed to extend the timeline for the engagement. However, DEN-L was unable to implement the revised SOW due to the Ebola crisis. It suspended its operation indefinitely as of early August 2014. DEN-L's operations upcountry remained suspended as of the end of FY14. FED has decided to directly manage the implementation of the RRA through enumerators and with the help of its county offices because the data is crucial to the project's FY15 programming. This will be done in Q1 of FY15.

## **2. The PUA Voucher Special Study**

USAID FED conducted this study in July 2014, and it revealed that farmers were 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, where farmers are expected to pay US\$80 for a package of assorted agriculture inputs, the study showed that most individual farmers and farmers groups are unable to afford this cost for the input.

### **3. The Rice Yield Special Study**

The 2013 rice harvest yield measurement was carried out in December 2013 to January 2014. The survey included 62 lowland and upland sites. The survey showed that farmers are already applying new seed varieties and using improved planting practices and Integrated Soil Fertility management (ISFM). The study showed an average yield result of 4.46 MT per hectare for the lowland and 3.31 MT per hectare for the upland, and a mean yield of 3.3 MT per hectare across all rice farms.

### **4. The Nutrition Extension Messaging Survey**

This survey was conducted in September 2014 to establish the number of FED beneficiaries who are receiving nutrition messages through the FED Program Value Chain interventions. The results of the study showed that 69.9 percent of FED beneficiaries, or 28,500 individuals, received at least one nutrition message from FED.

### **5. The FY13 Cassava Yield Special Study**

This study was launched on September 2014 and the processing of the results of this study will be completed in October 2014. The report will be available in November 2014. The results of this study will help FED in extrapolating yield across the 139 hectares of land supported by FED with improved technologies in FY13.

### **Gender, Youth, ICT and Environmental Compliance Mainstreaming**

All data were collected in surveys with disaggregation by gender. A workforce survey completed by the Liberia Institute of Statistics and Geo-Information Services (LISGIS) in 2010 was reviewed and updated for the four FED core counties. Information from these surveys were used as the basis for the development of training and course offerings of FED's Centers of Excellence (CoEs), ensuring responsiveness to the needs of agriculture in general, and FED's value chains in particular.

## **Subtask 1.2: Improved access to Agricultural Inputs**

### **Principal objectives for FY14**

During FY14, FED's principal objectives pursued under improved access to agricultural inputs were as follows:

1. To help activate the seed certification process with CARI and train seed inspectors to monitor selected seed multipliers and ensure they follow required protocols in producing seeds that would qualify for "certified seeds";
2. To set up rice seed multipliers in both upland rice and lowland rice to meet the 900 MT of rice seeds set for FY14;
3. To increase access to improved planting materials for cassava value chain for FY15 through the establishment of cassava nurseries;
4. To stimulate demand for inputs through risk-sharing via partial subsidy using voucher programs that would link the farmers with agro-dealers;
5. To develop the private sector distribution channel that aims to strengthen linkages among agro-input wholesalers, agro-dealers and farmers;
6. To scale up the demonstration of the UDP technology as an efficient method of fertilizer use.

## **Activity specific results**

### **Input Supply Activities for the Rice Value Chain**

#### ***Activity 1.2.1 Establish Seed Certification Program and Train Seed Inspectors***

Protocols for seed production and training manuals were developed in collaboration with the CARI. Seventeen Liberian seed inspectors were trained and accredited by CARI as seed inspectors. A total of 100 copies of the training manual were printed and given to CARI and the 17 seed inspectors. As planned, 22 Rice Seed Multiplication (RSM) sites, comprising 40 hectares of 10 lowland sites and 120 hectares of 12 upland sites were established. The 22 sites are expected to produce 400 MT of improved seeds of the Nerica L-19, Nerica L-14 and LAC23 rice varieties.

#### ***Sub-Activity 1.2.1.1 STTA to Review Seed Certification Protocol and Provide Training***

USAID FED engaged a seed certification consultant to assist CARI and other stakeholders in advancing the process of rice seed certification. Mr. Josiah Wobil, the Seed Certification Specialist, conducted his mission from February 23 to March 14, mainly in Bong County.

The draft protocol which had been under discussion at CARI was reviewed. The Economic Community of West African States (ECOWAS) harmonization protocols and models used in Nigeria, Tanzania and Ghana were benchmarked with the specific context of Liberia's seed sector. Based on these, a Seed Certification Protocol for CARI was finalized. This protocol is intended to be used initially as an internal seed certification protocol by CARI and other partners, pending the introduction of formal seed legislation and seed certification endorsements in Liberia.

The protocol was formally approved by CARI, and contains specific guidelines for variety release and registration, field inspection and laboratory seed-testing. The creation of an interim seed certification agency and necessary oversight committee are also included in the protocol, setting a basis for an improvised seed certification program as a learning curve while awaiting the introduction of legislation-based protocol in due course. The seed certification protocol developed would form part of the implementing guidelines for the seed regulation that was promulgated in August 2014.

#### ***Sub-Activity 1.2.1.2 Accreditation of Seed Inspectors***

FED, CARI and the Africa Rice Center carried out a 10-day certification training on quality seed assurance for 31 people (24 male, seven female) at the CARI facilities. FED also trained 17 Liberian seed inspectors in May and contracted them to conduct inspections on the rice seed multiplication sites. Each of the inspectors was allocated a schedule indicating sites to inspect. The seed inspectors learned the protocols of seed production including land preparation, fertilization and application, rouging to maintain purity, seed processing, proper seed storage, and seed germination techniques. They are expected to apply these skills when working with local rice seed producers in Bong, Nimba and Grand Bassa counties. These 17 seed inspectors are continuously monitoring the 22 rice seed multiplication sites to ensure protocols are followed.

#### ***Sub-Activity 1.2.1.3 Rice Seed Multiplication***

FED established 10 lowland sites (40 hectares) and 12 upland sites (120 hectares) for rice seed multiplication. A total of 1.8 MT of Nerica-14 and 4.2 MT of Lac 23 were supplied to the upland sites and 2 MT of Nerica L19 were distributed to the three counties for the lowland sites. The 10 lowland sites were also supplied with 40 UDP applicators. FED also distributed 4.2 MT of fertilizer (2.4 MT NPK and 1.8 MT urea granules) to the 22 rice seed multiplication sites in Bong, Nimba, Lofa and Grand Bassa counties.

#### ***Sub-Activity 1.2.1.4 Training of Seed Producers***

In Q3, FED conducted rice seed production workshops for 33 farmers (27 male, six female) in Gbarnga, Bong County. The farmers learned about pre- and post-harvest operations, seed quality, testing and certification, seed production protocols, as well as iron toxicity management. FED provided improved seeds to new farmer beneficiaries in the hope that when they experience better yields from these seeds, the beneficiaries will be convinced to buy and plant higher-quality seeds from seed producers trained by FED.

#### ***Sub-Activity 1.2.1.5 Certification of Rice Seed by FED-trained Inspectors***

These 17 seed inspectors continued to monitor the 22 rice seed multiplication sites to ensure protocols for improved seed were followed. The seed inspectors will continue to monitor the sites during Q1 of FY15 in close collaboration with CARL. They will “certify” the seeds that have been produced following the CARL-approved rice seed production protocols.

### ***Activity 1.2.2 Voucher Program to Stimulate Demand for Agri-inputs in Rice***

#### ***Sub-Activity 1.2.2.1 Voucher Program for FY13 Farmers***

FED planned to implement a voucher program to (1) continue encouraging farmers to use new technologies; (2) make the agri-inputs accessible and affordable; (3) and, strengthen the private sector’s distribution channel by helping kick-start demand (via the voucher discount). It is aimed at reducing the perceived risks associated with expanding distribution beyond the urban and peri-urban areas. The voucher program intended to provide one 50-kg bag of NPK to 5,000 upland and lowland rice farmers (250 MT of NPK). However, the voucher program was deferred, to allow time for the arrival of fertilizer recommendations based on soil sampling and testing. The results of the soils tests from Council for Scientific and Industrial Research (CSIR) Ghana and IFDC, however, did not arrive early enough for the planting season. As a result, the voucher program will be implemented in FY15 and will target both FY13 and FY14 farmers.

#### ***Sub-Activity 1.2.2.2 Develop MOUs with Private Sector Agro Dealers/Suppliers***

It was expected that FED will implement the rice voucher program with Wienco, which has an established agro-dealer network through which vouchers could be redeemed. Due to reasons detailed under Activity 1.2.3.1, this activity was deferred to FY15.

#### ***Sub-Activity 1.2.2.3 Assist Agro dealers in accessing credit***

Commercial banks and micro-finance institutions in Liberia provide less than 5 percent of their loan portfolios to the agriculture sector. As a result, small enterprises have difficulty gaining access to available funds. FED intended to assist rural-based agro-dealers under Wienco for example in obtaining credit from the larger Monrovia-based suppliers via the voucher program. Due to reasons detailed under Activity 1.2.3.1, this activity was deferred to FY15.

### ***Activity 1.2.3 UDP Scaling Up***

FED identified and selected 100 new lowland sites on which to scale up the UDP adaptive research and best practices activities for FY14. The upscaling was based on test results from FY13 research, which showed that rice yield from land under UDP are higher by 17 percent than those that used the broadcast method, and 30 percent more than those that did not use fertilizer at all. To support the activity, the program procured UDP applicators and negotiated a reduction in the price of urea briquettes, cutting the price by half from US\$120 to US\$60 per 50-kg bag. The yield results of these sites will be monitored during FY15 period.

A total of 139 selected sites showcased the use of UDP. Fifty sites demonstrate UDP in comparison with urea broadcast and zero fertilizer use. The remaining 89 sites showcased UDP only on a hectare plot in

each site. Harvesting will be carried out in the first quarter of FY15, when impact of UDP will be determined.

***Sub-Activity 1.2.3.1 Research Activity A***

50 sites (10 in Bong, seven in Lofa, 29 in Nimba and four in Grand Bassa) were demarcated with the intention of validating UDP research results of FY13. This will determine what the yield gains were from broadcasting fertilizer versus no fertilizer application and what the additional yield gains could be from applying UDP versus broadcasting fertilizer. The treatments to be compared were:

- T1: No fertilizer
- T2: Broadcasting
- T3: UDP

Each treatment was applied in one-hectare plots located in the same site and managed by the same group of farmers. All of these sites received improved seeds, NPK (15-15-15) at 150-kg / hectare, technical assistance and training on water management and irrigation infrastructure, food assistance during intensive operations such as de-stumping and construction of dikes/bunds and essential tools.

In 89 sites, demonstration of UDP only as an improved technology was carried out.

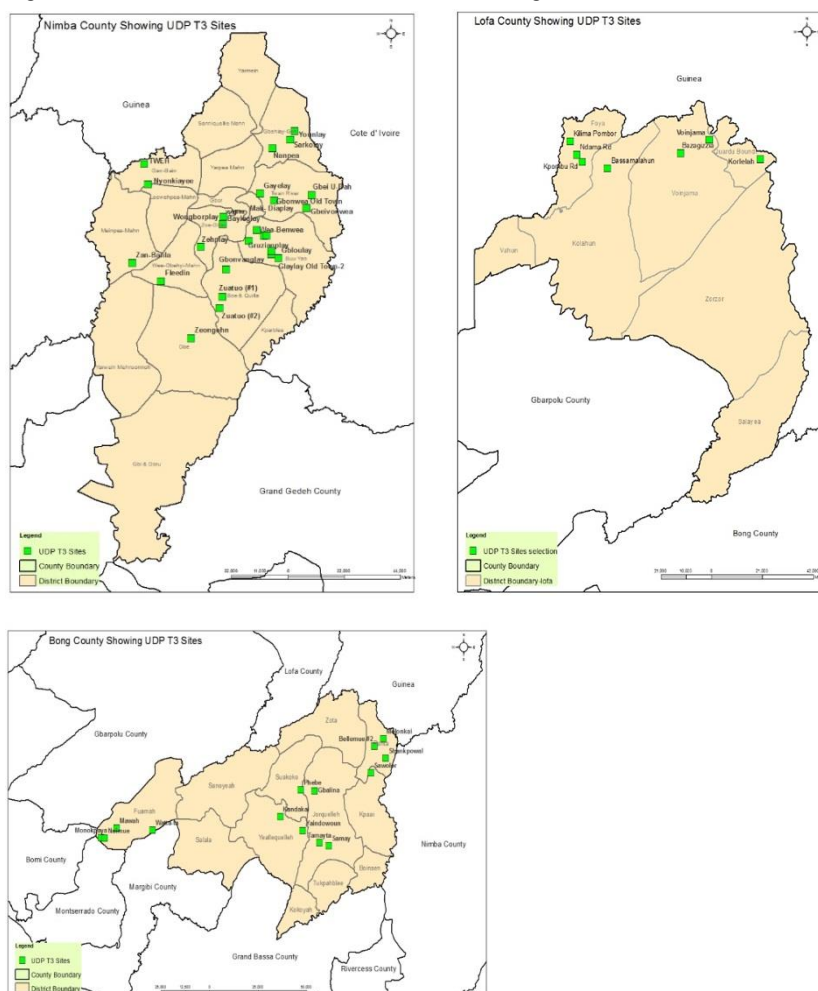
***Sub-Activity 1.2.3.2 Research Activity B***

Additionally, in FY14, technology demonstrations were established to compare two research methodologies:

- T1: UDP is demonstrated alongside broadcast and zero fertilizer on 50 new sites of FED, i.e., Research Activity A above (10 in Bong, seven in Lofa, 29 in Nimba and four in Grand Bassa)
- T2: UDP alone is demonstrated in another 50 new sites (10 in Bong, seven in Lofa, 29 in Nimba and four in Grand Bassa)

All of these sites received improved seeds, NPK (15-15-15) at 150 kg / hectare, technical assistance and training on water management and irrigation infrastructure, food assistance during intensive operations such as de-stumping and construction of dikes/bunds and essential tools. The results of these methodologies will be documented in FY15. All farming groups that participated in Research Activity B will be included in a voucher program for urea briquettes, with 50 percent of the cost subsidized by FED. The technology adoption rate will be determined on the basis of the number of groups that actually redeemed their vouchers, i.e., bought fertilizers using the vouchers.

Figure 26: UDP 3-treatment sites in Nimba, Lofa and Bong Counties



### Soil sample collection and testing

During Q3, a total of 784 soil samples were collected from UDP 3-treatment trial sites, UDP-only sites and vegetable sites. Sampling was done at 3 cores per hectare at depths, 0-15 cm and 15-30 cm. Samples were composited, mixed thoroughly and packed in plastic bags. Then, the samples from each depth were kept in separate plastic bags. Each sample was given a code or ID that indicates the area/community sampled. A GPS reader was used to record latitude and longitude (waypoint) of each sampled site.

Samples collected were sent to the soils laboratory of the College of Agriculture and Forestry, University of Liberia for processing (for air-drying, grinding and sieving to < 2 mm) and packaged at 100 g for analysis. A total of 300 samples were shipped to CSIR-Ghana for analysis. Twenty sub-samples were sent to IFDC-HQ USA for analysis, while 10 sub-samples were analyzed by Dr. Sampson of IFDC with the use of HACH SIW Kit.

Table 15: Soil sample collection at county level

Sites	Counties						No. of sites	No of Sample/ site	total Samples
	Nimba	Bong	Lofa	Bassa	Margibi	Montserrado			
UDP T2	29	14	7	0	0	0	50	2	100
UDP T3	29	14	7	0	0	0	50	6	300



Best Practices	22	10	14	4	0	0	50		300
Veg. Value Chain	4	0	0	2	8	7	21	4	84
<b>Grand Total</b>							<b>121</b>	<b>12</b>	<b>784</b>

### ***Soil sample collection training***

In Q3, a total of 82 individuals were trained in Soil Sample Collection Methods and UDP-SRI Technology. This included 10 FED staff, 10 staff from the Centers of Excellence and 36 Lead Farmers. Training on Soil Sample Collection Methods was conducted at three locations: Mount Barclay in Montserrado County, Gbarnga in Bong County and Sanniquelleh in Nimba County. A training manual on Soil Sampling Methods was developed and distributed among the participants.

*Figure 27: Trainees collecting soil sample in Nimba County*



### ***Soil Testing for Fertilizer Recommendations training using the HACH SIW Kit:***

On July 27, 2014, four FED staff joined 10 other participants from the University of Liberia (UL), Centers of Excellence (CoE) and Cuttington University College (CUC) in a five-day training on Soil Testing for Fertilizer Recommendations using the HACH SIW Kit. The training was conducted by Dr. Sampson Agyin-Birikorang, Scientist-System Agronomist of IFDC.

*Figure 28: Participants undergoing training on use of Hach Kits*

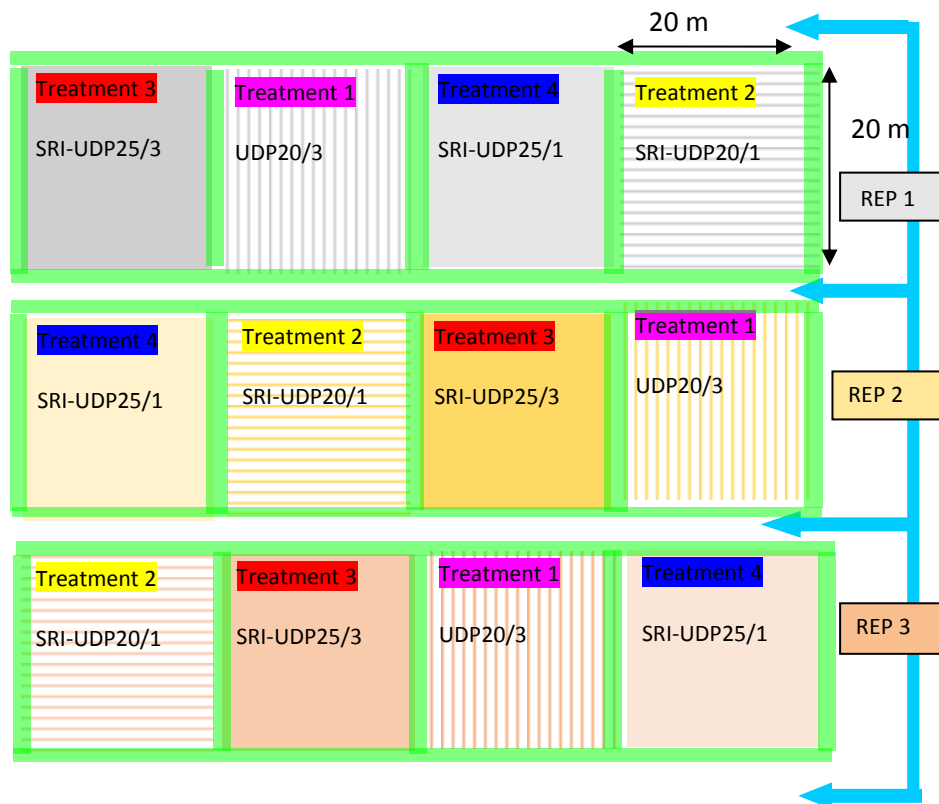


### UDP+SRI Field Trials

In line with FED's mandate to improve efficiency of fertilizer use, FED initiated research on the impact of the combined use of UDP and 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 + SRI could work optimally.

In August 2014, FED commenced innovative UDP+SRI trials at two locations in Bong and Nimba counties. These trials will be conducted during both the wet and dry seasons comprising of four treatments and three replications. The aim of these trials is to compare yield data between UDP+SRI technologies with that of UDP technology only. The results of these trials are expected in early FY15. Four sites were selected for the UDP+SRI Management of Trials – Taylay in Nimba County; Gwenimah, Gbarngasiequelleh and Garmue 2 in Bong County. The experiment consists of four treatments laid out in randomized complete block design with three replications.

Figure 29: Plot Layout with Three Replications and Four Treatments



Treatment 1: UDP, spacing 20 cm X 20 cm at 3 plants per hill  
Treatment 2: SRI-UDP, spacing 20 cm X 20 cm at 1 plant per hill  
Treatment 3: SRI-UDP, spacing 25 cm X 35 cm at 3 plants per hill  
Treatment 4: SRI-UDP, spacing 25 cm X 25 cm at 1 plant per hill

The ability of each site to support both the wet season and dry season lowland rice was observed. Bong was considered a better choice for the technology in the dry season as compared to the site in Nimba,

which needs to be replaced because it does not have a year-round water supply. Rain gauge was setup on each UDP-SRI site and Lead Farmers were trained on rainfall data collection. MoUs with Lead Farmers from each trial site were also signed. FED also reinforced the construction of dikes, bunds and peripheral canals to meet SRI technology standard on all sites.

In September, 12 participants (four women, seven men) received training in UDP+SRI technology. The objective of the training was to introduce the methods of land preparation, alternative wetting and drying (AWD) water management and other cultural practices involving SRI technology. Two farmers from each trial sites along with four Community Based Facilitators (CBF) benefited from the training.

#### ***Activity 1.2.4 Support Rice Seed Marketing***

A major challenge encountered in FY14 was finding private sector partners to implement rice-seed marketing activities. In March, an assessment of potential companies that engage in the development of rice-seed marketing was conducted to determine three things: the current activities done by the companies; the potential of the companies to develop a brand; and, their willingness to participate in rice-seed marketing on cost-share basis.

Eight companies were evaluated: GroGreen, Arise and Shine, Greenstar, Wilhelm Enterprises, AIC, Atlantic, Arjay Farm and Wienco. Two made it to the shortlist – Wienco and Arjay Farms –and were found to have the best potential for development of rice-seed marketing. Wienco, an agricultural input supplier, later decided that the initiative was a risky venture to invest in, considering the current situation of seed production and supply in Liberia, which is highly donor-dependent.

Arjay Farms has the requisite infrastructure for rice-seed marketing, and has been producing rice seeds and selling them to the MoA and NGOs. FED supported Arjay Farms in FY13 in producing and processing rice seeds. The assessment provided by Arjay Farms on its outgrower seed-production activity showed that it was able to recover only 2.5 MT of rice seeds out of the 5.625 MT of seeds that it distributed for planting to its 150 outgrowers. Arjay Farms has the facilities and the experience in producing rice seeds and therefore has the best potential to be developed as a commercial rice seed company. Issues that cropped up during the previous partnership, however, need to be sorted out before FED can continue providing additional support.

### **Input supply activities for the Cassava Value Chain**

#### ***Activity 1.2.5 Importation of Improved Disease-Resistant Varieties from IITA Nigeria***

USAID FED funded the procurement of 11 improved cassava varieties from the International Institute for Tropical Agriculture (IITA). IITA delivered a total of 44,000 cassava cuttings of 11 improved varieties to CARI. Of these, 34,687 plants are under screening in two controlled sites in Lofa County, and 10,000 cuttings are with CARI in Bong County. CARI technicians are providing oversight and inspection on a bi-weekly basis. The plants are all growing vigorously, with average germination at 91.5 percent. So far, only one variety (TMS 01/1368) showed symptoms of the cassava mosaic disease (CMD). The remaining 10 varieties are demonstrating resistance to all of the six diseases that are being monitored.

Figure 30: Cassava varieties at the control site in Lofa



#### **Activity 1.2.6 Establishment of Cassava Commercial Nurseries**

By the end of the reporting period, 40 commercial nurseries on a total of 60 hectares of land had been planted with improved planting materials. The nurseries are located in Nimba (24 hectares), Grand Bassa (18 hectares), Bong (12 hectares) and Lofa (6 hectares). The 40 commercial nursery owners have already been trained in commercial cutting production. The multiplication of improved planting materials is expected to benefit up to 25,000 cassava farmers during the FY15 planting period.

#### **Activity 1.2.7 Promote ISFM in Cassava Farming through Crop Rotation with Legumes**

FED distributed 6,040 kg of red peanuts to 12 clusters in Bong, Nimba, Lofa and Grand Bassa. These peanuts were procured at county level. Of this volume, 1,220 kg went to Bong County, 2,420 kg to Nimba, 1,810 kg to Grand Bassa and 610 kg to Lofa. The peanuts were planted on an equivalent area of land to that under cassava demonstrations in the counties. The clusters are expected to harvest and sell the peanuts in FY15, representing additional incomes for farmers. Cassava will be planted in the area where peanuts will be harvested. Peanuts will be planted in areas where cassava was harvested.

### **Input Supply Activities for Peri-Urban Vegetables**

#### **Activity 1.2.8 Vegetable Pilot Voucher Program - Lessons Learned**

Under the FY13 vegetable voucher program, a total of 1,093 vouchers were prepared by FED for distribution; of which 805 vouchers were collected by farmers. Of the 805 vouchers distributed, 619 vouchers (76.9 percent) were redeemed. The number of redeemed vouchers exceeded FED's expectations. A total of 264 farmers bought 50-kg bags, while 246 farmers bought 25-kg bags, proving that there is a demand for smaller package sizes.

The FED input supply team held a Lessons Learned Conference at the FED office in Bong County on October 25, 2013. Participants included 19 people (four female, 15 male). Some of the lessons arising from the FY13 voucher program included:

- There was lack of communication between farmers and vendors;
- The restriction on the amount of fertilizer a farmer could purchase hindered the farmer's ability to cover large farms;
- Farmers were pleased that the participating vendors were easily accessible;

- The reduction in the price of fertilizer allowed farmers to purchase more; and
- Demonstrations on the application of fertilizer are useful.

Farmers preferred that the voucher program run throughout the year, instead of during just one season. Running the program year-round will, accordingly, enable other farmers in all sectors to be part of the voucher program. The feasibility of this suggestion will be considered in FY15.

**Sub-Activity 1.2.8.1 Dry Season 2 (Jan - April): Voucher Program**

FED, through Wienco and its network of agro-dealers, distributed 354 input vouchers meant to stimulate the demands for inputs in the 21 USAID FED-supported clusters. The composition of the voucher includes fertilizers, pesticides and seed varieties valued at US\$160. To purchase the package, each of the farmers was to pay US\$80. By the end of the closing of the voucher window period in May, 97 vouchers were redeemed, representing a 28 percent redemption rate.

Table 16: Vegetable voucher reconciliation for PUA Dry Season II

<b>PUA Dry Season II Voucher Reconciliation</b>		
<b>County</b>	<b># of Vouchers Distributed</b>	<b># of Vouchers Received</b>
Montserrado	112	61
Margibi	145	11
Grand Bassa	23	1
Nimba	72	24
<b>Total # of Vouchers</b>	<b>352</b>	<b>97</b>

USAID FED and input supply company Wienco conducted a rapid assessment to determine the reasons for the low redemption rate.

A major factor cited by farmers was the high cost of the vouchers (US\$80 per voucher), and farmers found inputs imported from Guinea cheaper than the price of the inputs subsidized through the voucher program. Even after EO #64, agro-input suppliers maintain that they find it difficult to access the duty-free privilege, forcing them to pay duties for their imported input supplies. The farmers' limited cash flow also added to their inability to redeem the vouchers.

**Sub-Activity 1.2.8.2 Identify FED-supported vegetable farmers to Participate in FY14 Voucher Program**

In FY14, 20 vegetable clusters were identified by FED to participate in the FY14 dry-and-wet-season voucher programs.

**Sub-Activity 1.2.8.3 Work with Suppliers/Agro Dealers to Train Farmers in Voucher Program**

FED initiated the dry-season voucher activity during the Q2 of FY14. The program was implemented by Wienco through its network of agro-dealers. The 20 cluster Lead Farmers and the agro-dealers participated in an awareness training session which covered the registration, distribution and redemption processes.

**Sub-Activity 1.2.8.4 Wet-Season (May - Sept): Voucher Program**

As a result of the low redemption witnessed during the dry-season voucher program and results of a rapid assessment conducted by FED and Wienco, the wet-season voucher program was cancelled. In FY15, FED will work with the input supply companies and agro-dealers to develop a strategy that ensures high redemption rates for farmers. This will include addressing packaging sizes, choice of inputs under vouchers and ability of agro-dealers to aggressively target farming groups.

#### ***Sub-Activity 1.2.8.5 Agro-inputs Packaging and Labeling Forum***

In FY14, it was realized that agro-input suppliers were bringing in products in packages that are too big for their agro-dealers to sell. The agro-dealer, in turn, repackaged them into smaller containers that do not carry a description of the products and how to use them. This meant that products left on the shelves had no clear labeling or messaging on their packets or containers. At the same time, some of the chemical products are brought in from neighboring countries and the packaging is labeled in languages that are foreign to the agro-dealers.

FED planned to work with agro-input suppliers and with farmers groups in conducting two-product knowledge training sessions: 1) With agro-dealers on the variety of chemicals and inorganic inputs available for rice, cassava and vegetable farmers; and 2) with chairpersons of farmers groups, Lead Farmers and agro-dealers on the product ranges of each supplier and on pack sizes required by farmers. These workshops were planned to be implemented in Q4 of FY14. However, due to the Ebola crisis and departure of the input supply specialist, these workshops could not be held.

### **Input Supply Activities for the Goat Value Chain**

#### ***Activity 1.2.9 Establish farmers' access to both preventative and curative veterinary services***

In FY14, FED trained 42 extension staff (two male, 40 female) on voucher distribution and voucher redemption process for the goat value chain. A total of 103 goat animal health kits, valued at US\$107 each, were distributed through eight agro-pharmacists to 206 trained Community Animal Health Workers (CAHW) in the four counties.

*Figure 31: Agro-pharmacist in Nimba County with animal health kits.*





The starter kits will help to ensure that the CAHWs have the equipment and drugs they need to start providing services to farmers. These services are paid for by the farmers. Part of the revenues derived from these services will be used by the CAHWs to replenish the drugs and equipment in the starter kits. The CAHWs will secure their future drug requirements through the FED trained agro-pharmacists.

## **Lessons learned**

### ***a. 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 sub-sector. This information could help to 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.

### ***b. On stimulating demand for agri-inputs***

Low redemption of vouchers during the dry season II vegetable season was witnessed. In a quick survey, farmers cited some of the factors for the low redemption. This includes the high cost of the voucher (US\$80 per voucher), as farmers found inputs imported from Guinea cheaper than the voucher subsidy. Additionally, farmers were burdened with existing loans that they had to meet; the voucher composition did not give farmers a choice to choose inputs of their choice. Furthermore, most agro-dealers have not been actively campaigning to encourage farmers to redeem their vouchers. FED has to test other approaches towards stimulating demand for agro-inputs.

### ***c. Optimal fertilizer mix for more efficient use of inorganic fertilizers***

The challenges encountered with introducing a new practice, i.e., soil testing and analysis as a basis for fertilization, clearly show the need to recalibrate expectations regarding the off-take of this practice. To facilitate the promotion of optimal fertilizer mix, FED will try to organize the areas by zones based on commonality of soils analysis to ensure that the correct fertilizer mixes are applied. This will need the assistance of a certified soils scientist to facilitate implementation. A voucher program for UDP, TSP and MoP combination package based on zones could then be supported.

### ***d. Organic fertilization***

In order to develop a successful commercial compost enterprise, an information and awareness drive needs to be conducted with farming groups to stimulate demand for organic fertilizer in sufficient volumes. The capital outlay 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.

### ***e. Integrated Soil Fertility Management (ISFM)***

Intercropping and crop rotation using peanuts and cow peas have been well-received by farmers. However, with more farmers adopting this practice, the current markets for peanuts and cowpeas could get saturated. FED in FY15 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, in order to discourage shifting cultivation.

## Subtask 1.3: Agriculture Extension Support

### Principal objectives for FY14

FED's objectives for agriculture extension support during FY14 were threefold: 1) To strengthen the extension delivery system within the Ministry of Agriculture (MoA); 2) To strengthen the extension curriculum within academic institutions; and 3) to continue to develop a joint extension delivery system within FED operational counties for the benefit of FED and MoA extension officers.

In order to strengthen the extension delivery system within the MoA, FED aimed to accelerate the process of decentralizing MoA's extension by first strengthening extension delivery capacity at district and community levels. This would include conducting a knowledge gap and training needs assessment for all District Agriculture Officers (DAOs) within the MoA, and to deliver extension training programs emphasizing FED value chains where FED and MoA extension officers in Bong, Nimba, Lofa, and Grand Bassa receive technical as well as extension delivery training.

In order to strengthen the extension curriculum within academic institutions, FED adopted a three-pronged solution, which included 1) revising the agricultural extension curricula currently available at community colleges; 2) promoting the use of Information Communication Technology (ICT) as an educational tool; and 3) involving the private sector in the design and implementation of extension training programs.

### Activity Specific Results

#### ***Activity 1.3.1 Training of Trainers for FED and MoA Extension Officers***

In FY14, a total of 145 (130 men, 15 women) people attended a TOT conducted by FED. Of this number, 12 were extension officers from MoA<sup>1</sup>, 36 were local NGO extension aides, six were from ZOA, and 90 were from FED (72 extension officers; 18 vegetable Lead Farmers).

The ToT covered both general extension delivery methods as well as Good Agricultural Practices (GAP) across rice, horticulture and cassava value chains. In addition, a total of 59 (51 men, eight women) upland rice lead farmers and 151 (140 men, 11 women) lowland rice lead farmers were also trained on GAP and ISFM techniques.

During Q4, USAID FED conducted a ToT for 100 (85 women, 15 men) VSLA chair leaders on nutrition-messaging across Nimba (25), Bong (25), Margibi (15), Montserrado (10) and Grand Bassa (25) counties.

#### ***Activity 1.3.2 Development, Production and Distribution of Extension Materials***

In collaboration with the value chain technical leads, 1,782 copies of extension training materials for rice, horticulture, cassava and goat value chains that were developed in FY13 were printed in FY14. These materials were used as training tools and reference materials by USAID FED, MOA and local NGO staff in providing extension support to farmers. All the PUA and rice materials developed in FY13 were validated. Several copies were printed and distributed to extension officers (EOs), LINGO Extension Aides (EAs) and MoA EOs during the Extension Training. In FY15, the extension team will review all FY14 materials and

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<sup>1</sup> Of the 12 MoA Extension Officers, 4 are from FED's counties of operation Bong (3) and Lofa (1). Fed sponsored 2 from Bong and ZoA sponsored 1 from Lofa County. The other 8 are from ZoA's counties of operation.

revise accordingly based on feedback relating to their effectiveness. Following final revisions, they will be mass-printed and distributed to county MoA offices, NGO and private sector partners.

Horticulture ToT participants preparing elevated vegetable nursery and rice participants taking post-training knowledge-based exams to determine changes in technical knowledge levels.



Figure 32: Extension officers being trained on elevated vegetable nurseries in Montserrado County



Figure 33: Training participants intensely engaged in post-exam section

No.	Name of Printed Material	Volume Printed
<b>Goat Value Chain</b>		
1	Introduction to Goat Rearing in Liberia	40
2	Intensive and Semi-intensive System of Goat Rearing	120
3	Community Animal Health Worker Training Manual	40
		40
<b>Cassava Value Chain</b>		
4	Growing Cassava in Liberia (An Illustrated Guide)	40
5	Rapid Multiplication of Cassava	144
6	Starting a Cassava Farm in Liberia	44
		44
<b>Vegetable Value Chain</b>		
7	Insect Pests of Vegetables in Liberia	40
8	Diseases, Mites and Nematode Pests of Vegetables in Liberia	40
9	Land Preparation and Soil Management for Vegetable Production	40
10	Saving Seeds for Vegetable and Cover Crop Production in Liberia	
<b>Rice Value Chain</b>		
11	Rice Production Training Manual	150
12	Water Irrigation Management Training Manual	150
13	SDC-Rehabilitation Schemes Training Manual	110
14	ISFM Training Modules	40
15	Rice Neck Blast	100
16	Rice Insect Management	100
17	Rice Sheath Rot Disease Management	100
18	Rice Stem Rot Disease Management	100
19	Seed Selection	100
20	Site Selection	100
21	Weed and Water Management	100

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**TOTAL      1,782**

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In the last quarter of FY14, a nutrition poster was developed in collaboration with the MoA. At least 2,000 copies of the poster will be printed during Q1 of FY15 and distributed across all six FED counties.

In FY14, the Extension Unit, in collaboration with the value chains, technical leads produced eight manuals (six rice, one cassava and one goat), 26 pamphlets (12 for rice,<sup>2</sup> eight for vegetables, five for goats and one cassava) and four fact sheets on common diseases of cassava in Liberia. The table below presents the titles of the various materials produced across FED's four value chains. In FY15, more fact sheets, brochures and possibly videos on GAP will be produced as needed.

*Table 17: Extension material developed during FY14*

<b>Value Chain</b>	<b>Material developed</b>
Rice	1) Rice Seed Production Manual, 2) Soil Test Manual 3) Soil Sampling Manual 4) Rice Insect and Disease Manual for Liberia 5) Rice Manual for Liberia
Horticulture	1) GAP and IPM manual for Aubergine, African eggplant and chili pepper 2) GAP and IPM manuals for cucumber, watermelon, lettuce, okra and cabbage 3) Manual on Safe and effective use of plant protection products 4) Manual on harvesting and post- harvest handling of vegetables for food safety 5) Common pests and diseases of Aubergine, African eggplant and chilies 6) Common pests and diseases of watermelon and cucumber 7) General IPM for vegetables 8) GAP in protected cultivation
Cassava	1) Cassava Mosaic Disease Fact Sheet 2) Cassava Bacteria Blight Disease Fact Sheet 3) Cassava Brown Streak Disease Fact Sheet 4) Cassava Anthracnose Disease 5) Starting a Cassava Farm in Liberia 6) Rapid Multiplication of Cassava
Goats	1) Feeding Goats to be Happy and Healthy 2) Shelters for Goats to be Happy and Healthy 3) Managing Birthing Process of Mothers and Kids 4) Health Care for Happy & Healthy Goats 5) Community Animal Health Care Workers (CAHWs) 6) Marketing Happy & Healthy Goats

### **Activity 1.3.3 Development of Training Strategy for FY14**

The extension strategy in FY14 was based on a ToT approach where trained EOs with oversight from the extension specialist and technical leads provide similar training to Lead Farmers. In FY14, the EOs and local NGO EAs in the cassava value chain trained a total of 600 Lead Farmers who in turn provided extension advice to 12,000 cassava producers across FED's core counties. Similarly, rice EOs and LNGO EAs were trained and in turn trained upland rice Lead Farmers (59) and lowland rice Lead Farmers (151),

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<sup>2</sup> The Rice manual consists of 11 chapters/pamphlets each of which can be treated as a separate document and distributed at the right time of the season.

who, in turn, provided regular advisory services to 18,200 rice farmers (11,025 upland and 7,175 lowland). A similar strategy was adopted in the vegetable and goat value chains.

#### **Activity 1.3.4 Enhancement of Agricultural Extension Curriculum in CoEs**

In FY14, the Extension Unit developed a course outline for the National Diploma in Agriculture (NDA) course on Basic Principles of Extension. Two instructors' reference materials were procured for Component 3 to be used in designing lesson plans for each section of the extension course. The NDA course on extension will be delivered during the final/second year of the program. As a result, the reference materials will become useful during the 2015 summer workshop sections on lesson planning. The reference materials to be used are Communication for Rural Innovation: Rethinking Agricultural Education (Leeuwis and Van den Ban, 2004) and Agricultural Extension (Wiley-Blackwell).

During Q4, a reconnaissance study of Ghana's Technical, Vocational Education and Training (TVET) program was conducted by the extension specialist. Among other things, the study describes how Ghanaian institutions offering vocational education in agriculture implement their curricula as well as manage their institutions from both an academic and financial standpoint. The report also recommended agricultural institutions in Ghana that could serve as destination for immersion visits by instructors and administrators from the FED-supported vocational education institutions in Liberia.

#### **Activity 1.3.5 Promotion of ICT**

All extension materials produced under the FED program will also serve as reference materials for NDA students in the CoEs. In order to integrate FED extension materials in a portable database that does not require Internet to access these materials, a Flash-based data system was proposed based on a prototype used in a 2008 USAID/DAI project in Afghanistan. The Flash database is intended to house all electronic copies of extension materials as well as reference materials downloaded from the Internet.

FED advertised extensively for a provider to develop the system. However, until the end of FY14 none of the local applicants was found to be qualified to build the Flash database. International applicants' quotes were deemed exorbitantly too high compared to DAI's previous experience. In FY15, USAID FED will explore other database systems that can serve the same purpose. In FY15, all FED extension materials will be loaded to all CoE library computers and also distributed to students on CDs or flash drives.

#### **Activity 1.3.6 Using information communication technologies**

##### **Radio:**

In Q3 of FY14, 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 broadcast 30-minute agriculture radio shows on a weekly basis. These radio stations were equipped by FED with laptops, digital voice recorders, rain gear and Internet modems to enhance their work. Four journalists working with the radio stations were trained on agriculture radio program development. The four journalists were also trained on how to use Adobe Audition 3.0 software to edit and produce their radio programs. A copy of Adobe Audition 3.0 was installed on each of the laptops donated to the radio stations. Through FED support, a total of 48 radio programs on agriculture (12 per station) were produced and aired across the four counties.

Figure 34: Radio Lacsa airing their first radio program using Adobe Audition 3.0



In Q4, FED entered into an agreement with UNMIL Radio to jointly produce a monthly agricultural radio program titled “On the Farm”, which is aired every Monday at 5:00 a.m. “On the Farm” features USAID agricultural interventions across FED counties. Two “On the Farm” programs were produced and aired in FY14.

FED developed and tested four nutrition jingles which were translated into nine local dialects. Bassa, Kpelle and simple Liberian English were 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 (NDA) and importance of goat shelters were also produced and aired by county radio station-partners of FED.

#### **Video:**

In Q3, FED produced a Rice Value Chain video which was aired at the 2014 MSME Conference’s Policy Forum and the MSME 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. A nutrition video titled “Healthy Foods for Pregnant Women and Children” was produced in Q4, highlighting the importance of eating a diversified diet and the consequences of poor diet on the overall health and productivity of children and adults. The video was tested during the nutrition training for VSLA chairwomen.

#### **Hand-held GPS Units:**

In FY14, a total of 15 extension aides from local NGOs contracted by FED were trained on how to use hand-held GPS devices to measure and calculate the land sizes under cassava cultivation in Bong, Nimba and Grand Bassa counties. These EAs were also trained on how to save and retrieve geo-referenced data for accurate cluster mapping. A total of 5,490 hectares of farms (cassava 2,078 hectares and rice 3,413 hectares) were mapped by EOs and EAs in FY14 across FED’s four core counties.

#### **Activity 1.3.7 Capacity Development of Private Sector and Civil Society**

In FY14, FED planned to use community radio stations to support producers and processors in their marketing activities. Part of this strategy involved the use of radio to disseminate weekly market price and producer information. In July 2014, “On the Farm” radio program jointly produced and aired by FED and UNMIL radio broadcast up-to-date commodity prices in various markets across FED’s six operational counties including Montserrado and Margibi. The partnership with UNMIL was discontinued temporarily as the MoA expressed interest to take over the program with FED’s support. This activity will be continued as soon as the collaboration with MoA on this specific activity is finalized.



#### **Activity 1.3.8 Creation of FED Extension and Communication Unit**

The FED Extension Team, headed by the extension specialist, was created with two other members – a radio specialist and a videographer. This team focused on the implementation of FED’s subtask 1.3 pertaining to Agricultural Extension Support. Meanwhile, the Communications Team continues to implement the Communications Plan of FED. It is headed by the Communications Manager, a Communications Specialist and Communications Officer. As planned youth, gender and nutrition have been mainstreamed in extension materials of the different value chains.

#### **Activity 1.3.9 Printing Extension Materials**

As mentioned under Activity 1.2, a total of 1,782 copies of extension training materials for rice, horticulture, cassava and goat value chains that were developed in FY13 were printed in FY14. Activity 2.6 should just have been a sub-activity to Activity 1.2.

#### **Activity 1.3.10 Using Lead Farmers to Promote FED Extension Materials and Messages**

Employing Lead Farmers’ help in extension work has proven to be effective. As discussed under Activity 1.3, the EOs and local NGO EAs in the cassava value chain trained a total of 600 lead farmers, who in turn provided extension advice to 12,000 cassava producers across FED’s core counties in FY14. Similarly, rice EOs and LINGO EAs were trained and in turn trained upland rice lead farmers (59) and lowland rice lead farmers (151) to provide regular advisory services to 18,200 rice farmers (11,025 upland and 7,175 lowland). A similar strategy was adopted in the vegetable and goat value chains. FED will continue to implement this strategy in FY15.

### **Major challenges and lessons learned**

The strategies outlined in the National Policy for Agricultural Extension and Advisory Services in Liberia and the extension development policy document, “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 to strengthen extension services in the country. For effective de-concentration and decentralization and to encourage pluralistic extension delivery, it is important for the MoA, FED and other stakeholders to agree on a standardized national curriculum. The curriculum and the extension materials will standardize extension delivery and enable decentralized delivery of services, as well as allow the private sector to engage in this. This, in turn, is expected to allow the adoption of a pluralistic approach.

In some cases, District Agricultural Officers (DAOs) could not participate in extension training sessions due to lack of funds for transport, meals and lodging. During FY14, less than five DAOs based in USAID FED’s counties of operation participated in value chain extension training session because the MoA could not pay for the cost of their participation. In FY15, USAID FED will consider shouldering the necessary cost to enable the DAOs to participate in trainings.

The provision of extension services continues to remain subsidized by donor funding through development partners. Without investments from the public and private sectors, it continues to be difficult to expect sustainability of extension services beyond the life of the USAID FED 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 and commercial cassava nurseries. Lead Farmers and youth entrepreneurs can be platforms for embedded extension services. Livestock marketing hubs can be maximized for extension delivery by CAHWs.

Development of extension material in formats that effectively communicate to beneficiaries and other end-users required the engagement of a graphic illustrator. Development of additional appropriate and easy-to-use materials will be started in early FY15. The services of local graphic design firms could be engaged to provide graphic design and illustration services to contribute to the development of user-friendly extension materials. This will ensure that appropriate content is developed on time and distribution to target groups achieved.

While FED has MoU agreements with four community radio stations, most of the radio journalists said they experienced difficulties in gathering content from FED sites. According to the radio journalists, FED extension officers and technical persons are often hesitant to grant on-the-spot interviews on grounds that they are not spokes persons for USAID or are not authorized to issue public statements despite the issues being mainly extension related. Another major challenge brought up by the radio stations was the perceived low transport allowances vis-à-vis the far distances required to be covered in gathering content. USAID FED will endeavor to address these issues in Q1 of FY15.

## COMPONENT TWO: STIMULATING PRIVATE ENTERPRISE GROWTH AND INVESTMENT

### Task 2: Enabling Policy Environment for Private Sector Growth

#### Principal Objectives for FY14

The objective for FY14 was to push for the institution and implementation of key policy initiatives, namely: Seed Policy, Crop Protection Policy, Incentive Policies, such as the renewal of Executive Order #30 and the National Livestock Policy.

#### Milestones in FY14, Challenges in Programmatic Implementation

In FY14, FED achieved two major milestones for four policy initiatives:

1. The renewal of Executive Order #30 (reinstated as Executive Order #64), which allows for the importation of all agriculture inputs, including seeds and equipment, duty-free as an incentive and subsidy for the sector
2. The publication of the ECOWAS seed, fertilizer, and pesticide regulations in Liberia's National Gazette, which makes the regulations part of the law of the land.

*Figure 35: Government of Liberia President and Minister of Commerce, visiting USAID FED's stall at the MoCI.*



These milestones were achieved by holding a series of policy dialogue sessions with multiple stakeholders from the public and private sectors. At the dialogue sessions, experts presented analysis and recommendations to attendees. In addition, 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. The event motivated government officials to move quickly to adopt proposed measures, namely the renewal of EO #30 and the announcement of the MoCI-supported 25-percent local procurement requirement for government purchases (Figure 35).

While EO #30 was renewed and reinstated as EO #64, there was no outreach to the private sector to explain the benefits and procedures. As a result, the private sector did not receive information about it. Those who may be aware that the measure exists, are not following the correct procedures and failed to take advantage of the waiver. Future incentives should be accompanied by targeted outreach programs.

USAID FED was not able to achieve milestones in the areas of conducting capacity-building assessments and training plans for ministries, advancing the National Livestock Policy to a new stage, conducting a consultancy to review sustainability options for the National Standards Laboratory and identifying and initiating Global Development Alliances.

One of the biggest challenges faced by FED is that the general lack of coordination and collaboration on agriculture initiatives among Liberian government agencies and ministries, particularly the MoCI and MoA. Stakeholders participating in FED-sponsored policy dialogue sessions in FY14 applauded the effort and called for more collaboration. However, getting individuals to participate in dialogue sessions, to follow up and take action with high-level decision-makers proved difficult. Therefore, FED created a special inter-agency policy group intended to facilitate this process (see below.)

In addition, it became increasingly apparent that the ministries have very low capacity to generate and analyze data that could inform policy decisions, strategically plan for and implement projects, and monitor project performance. Furthermore, the MoA staff is not knowledgeable about ECOWAS harmonization requirements and procedures, and how these measures should be integrated with their own domestic policies and legislation. Moreover, there are no agriculture representatives assigned to and working in Liberia on behalf of ECOWAS, either in the ECOWAS country office and or in the Liberian National Legislature.

During a meeting to explore capacity development assistance to the MoA, Minister Chenoweth of MoA rejected a proposal by FED to conduct an organizational capacity assessment that would have led to capacity-building for MoA staff. However, the Minister requested assistance from FED to translate national domestic policy documents into statutory language in preparation for submission to the National Legislature to assist Liberia with World Trade Organization accession requirements. FED found no legal expertise available in Liberia during FY14 who could advise and assist on these specific matters. As result, FED will need to look to international expertise in FY15.

At the same time, MoCI made several positive changes in FY14, such as creating the Bureau of Industry and assigning an additional Deputy Minister as its manager. Moreover, the Small Business Empowerment Act that seeks to transform the Micro/Small and Medium Enterprise Division into a Small Business Bureau was submitted to the National Legislature. MoCI remains very open to receiving capacity-building support for this new bureau once it is established, which is expected to happen in December 2014.

In the future, FED should assist MoA only with initiatives that are clearly defined, *verifiable*, and with commitment from MoA staff for follow up. FED should also seek qualified international expertise in legal matters to assist FED in verifying feasibility of MoA requests. MoCI seems to be a more appropriate partner for policy initiatives related to improving the business environment and commercializing the value chains. FED should, therefore, continue to partner closely with MoCI with inclusion of MoA staff in relevant technical working groups.

## **Activity 2.1 Policy Reform Activities**

### **Policy Dialogue Forums**

In FY14, 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 FED's efforts, Executive Order #30 was extended for an additional year and was renamed Executive Order #64. Also through the policy dialogue sessions, FED succeeded in getting the MoCI's full support for the evaluation of the various other initiatives aimed at improving the business-enabling environment (i.e., more long-term policy incentives such as tax holidays, 25-percent local procurement requirement to spur investment, and import licensing regimes.) As a result, FED and MoCI created the Liberian Agriculture Business-Enabling Environment Inter-agency Policy Group (LABEE IPG).

### **Seed, Fertilizer, and Pesticide Regulations**

FED held a series of forums in 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. High-ranking officials of the MoA attended the forums.

The forums clarified the procedure for adopting ECOWAS policies by member states, and advised the MoA that in order to keep abreast 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. In FY15, FED will work with the MoA, WAAPP and the regional partners to begin additional measures, such as setting up legal bodies, to enforce these regulations.

### **Livestock Policy and National Phytosanitary Committee**

In FY14, FED participated in the launch of the National Livestock Policy Hub hosted by 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 requirements before the National Livestock Policy is passed by the Liberian Legislature. In 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, the action plans developed by these two committees have not been put into effect and no subsequent committee meetings have been scheduled. This is one example of the MoA's lack of capacity to manage the process.

## **Activity 2.2 Assessment of Training Needs and Training for Relevant Government Agencies and Private Sector**

### **Assessment of Training Needs and Training for Relevant Government Agencies and Private Sector**

The FY14 work plan called for 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. In light of this, FED did not move forward with assessing

the capacity needs of MoA staff. At the same time, FED consulted with the Minister and Deputy Ministers at MoCI several times throughout the year to ascertain their buy-in for similar assessments. MoCI is currently transitioning their MSME Division into a Small Business Bureau that is provided in a proposed law expected to be passed by the National Legislature by the end of 2014. By that time, MoCI is expected to be amenable to receiving this type of assistance, since the new Small Business Bureau will require the hiring of an all-new staff.

### **National Standards Laboratory**

The FY14 work plan called for FED to conduct an assessment of the needs of the National Standards Laboratory (NSL,) to enable it 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 technical working group aimed at coordinating the efforts of donors, MoCI and the NSL staff to make the lab self-sustaining. In Q4, MoCI approved FED's proposed consultancy to conduct a market study, business plan, gap analysis, and phased funding strategy to move the lab to the next step. Due to the recent outbreak of Ebola, FED could not find international experts willing to come to Liberia to perform the consultancy for the National Standards Laboratory.

### ***Activity 2.3 Promotion of Public-Private Partnership (PPP) to Benefit Feed the Future Objectives***

#### **Chevron, Coca-Cola**

The FY14 work plan called for FED to identify several PPPs to be established during the life of project. It also aimed to formalize at least two Global Development Alliances (GDAs) by the end of FY14. In FY14, FED submitted two proposals to Chevron for partnership to expand peri-urban vegetable production and to establish teaching kitchens in the Centers of Excellence. In addition, FED attempted to partner with Coca-Cola under its "5 By 20" program that seeks to promote economic development and equality for five 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. FED met with two major rice importers, however, who were part of the policy dialogue platforms. Both importers were interested in partnering with FED to expand rice and cassava processing. Based on this experience, FED will strive to partner with private sector entities, like the rice importers, who have vested interests in making a profit from agricultural activities.

*Figure 36: USAID FED 's staff at the MoCI conference*





## **Activity 2.4 2014 National M/SME Conference**

### **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 (Figure 36). This year's conference put a spotlight on agri-business and youth. Overall, the MSME Conference was a success based on the following results:

1. The 25-percent local procurement regulation (Small Business Empowerment Act) is expected to be ratified into law by December 2014. The law will require the GoL to procure at least 25 percent of their goods and services from locally registered businesses.
2. The President of Liberia signed Executive Order #64, suspending import tariffs on "essential equipment, agricultural seeds, live animals for breeding, and other goods directly related to agricultural development" on April 25, 2014. FED began to lobby for this in November 2013 and put together the list of agro-inputs and corresponding codes for MoCI to use to lobby for the measure.
3. 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 FED. The TWG was launched in June 2014 and is still in the process of finalizing the terms of reference.

## **Subtask 2.1: Access to Credit and Business Development Services**

### **Principal Objectives for FY14**

The principal goal for FY14 was to generate financing amounting to US\$240,000 for 3,320 farmers and 40 entrepreneurs across the four value chains through a combination of VSLAs, micro-finance, embedded and formal financing.

### **Milestones in FY14, Challenges in Programmatic Implementation**

1. Established and supported 123 Village Savings and Loan Associations (VSLAs) for over 3,400 farmers, mostly women
2. Facilitated US\$276,292 in value chain financing benefiting over 3,500 farmers via the following mechanisms
  - US\$35,773 in loans benefiting 263 farmers from a local micro-finance institution (MFI)
  - US\$184,199 in loans benefiting over 3,400 farmers, mostly women
  - US\$56,320 in embedded financing through nine agro-input dealers participating in FED-sponsored pilot voucher program.
3. Value chain financing facilitated US\$165,145 in farm gate sales and over 1,000 part time jobs.

FED's original work plan goal was to achieve US\$240,000 in value chain financing for farmers and entrepreneurs via VSLAs, MFIs and embedded financing. However, a goal of US\$327,000 was erroneously but officially submitted to the Feed the Future Monitoring System. Therefore, FED achieved 115 percent of the programmatic target and 84.5 percent of the target submitted to the Feed the Future Monitoring System.

Figure 37: Member of United Farmers Association, Johnson Harris, stands next to a laborer he pays to harvest peppers.



FED had planned to reach 40 microbusinesses with US\$89,000 in loans from MFIs. Actual loans from MFIs, however, totaled US\$36,000, which is only 40 percent of the target. These loans were given to vegetable farmers, not microbusinesses. The primary reason for this is that a large part of the FY14 work plan considered the financing needs of cassava processors and investors in cold storage and transportation. Cassava-processing entrepreneurs were not identified until the fourth quarter of FY14. Just two firms—ROSNA and Grain Coast Inc.—were identified for supporting cold storage facilities. However, both enterprises needed more time to prepare their cost-share and the activity did not get underway in FY14. This activity has now been moved to FY15, and FED will share in the cost of investment while at the same time helping micro enterprises access financing in FY15.

The major lesson learned is that 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 be willing to take the risk. Farmers working in income-generating clusters hold a natural accountability to each other that is difficult to achieve without the cohesiveness of the cluster. The use of VSLAs and the disbursement of MFI loans through FED-established vegetable clusters have both proven to be great platforms for helping the farming communities do this. Once farmers prove that they can manage savings and loans internally to generate income from investments, they are eligible to access more formal financing through banks and MFIs. They can also work toward formalizing their VSLAs and groups.

In addition, FED hired independent consultants in each county to roll out the VSLA program in FY14. While this was a useful exercise in tailor-fitting the program to FED needs, it was difficult to gather accurate information on a monthly basis. Scaling up will require outsourcing and partnership with local NGOs who will be required to relay all necessary data monthly as a basis for payment. In addition to this, 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) (Figure 37). In FY15, FED will enhance VSLA training curriculum to heavily emphasize various ways to invest in new technology in agriculture.

Finally, while 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, because 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 with their promises. Traders are willing to pilot the use of embedded services in FY15, but they will need access to additional sources of funding, possibly through MFIs, in order to do so. In addition, Wienco 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. FED should ensure that future systems are set up to adequately supply embedded services that meet the needs of all value chain stakeholders as well as the market demand.

## **FY14 Activities**

### **Activity 2.1.1 Village Savings and Loan**

The FY14 work plan called for FED to support 124 VSLA groups for 3,320 farmers and generate US\$150,000 in value chain financing for participants. FED exceeded the FY14 goals by supporting 123 VSLAs, benefiting 3,400 farmers, mostly women. In addition, VSLAs generated US\$184,000 in savings-based loans for their members, which facilitated another US\$120,000 in sales, US\$184,000 in investment, and over 1,000 part-time jobs. Groups reported utilizing loans 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.

*Figure 38: The Zoedoor Women's Group pays back their loan in full.*



### **Activity 2.1.2 Extension of Micro Finance to Farmers and Entrepreneurs**

The FY14 plan called for FED to help secure US\$89,000 in loans for 40 micro entrepreneurs. By working closely with local MFI Liberia Entrepreneurial and Asset Development (LEAD), FED facilitated the release of loans worth US\$36,000 to vegetable farmers and recorded an 89 percent repayment rate. Farmers reported generating US\$44,000 in sales as a result of having access to capital for investing in their vegetable fields and business.

As a result of the successful pilot, LEAD was given an additional grant worth US\$237,000 from the United States Africa Development Fund (USADF) for FY15, all of which will be made available to lend to FED farmers (rice and vegetable) and entrepreneurs in processing and trading. The grant was made available in Q4 of FY14. FED will also assist LEAD in training and logistics in FY15. In addition, FED has helped two farmers groups that proposed to add cassava and rice-processing to their farm businesses via funding through USADF (for approximately US\$50,000 each). Funding will be made available by Q2 of FY15.

### **Activity 2.1.3 Business Training and Mentorship to Access Finance**

The FY14 plan called for FED to collaborate with another USAID project, the Investing in Business Expansion Liberia (IBEX) in conducting assessments of financing needs of entrepreneurs, large commercial farmers, and farmer groups who wish to access formal financing through banks. In FY14, FED began this process by working with IBEX to assess the needs of the original 26 pilot VSLA groups and to create customized training and mentorship modules in accessing formal credit. VSLAs that have 'graduated' and

shared out after the first cycle are eligible to apply for loans from the Central Bank's Loan Extension and Availability Facility (LEAF). The loans, which are typically three years with quarterly payments at 3 percent annual interest rate, will be used by the VSLAs for on-lending to their members.

The Central Bank of Liberia facilitated the creation of The National Association of Village Savings and Loan Association (NAPEX) to streamline the application process. NAPEX has established leadership structures from the existing VSLAs at the national, county and district levels throughout the 15 counties.

NAPEX is intended to enhance the delivery of information among member VSLAs in a coordinated fashion, provide the opportunity for feedback on the implementation of activities, and help the Central Bank improve risk management by assisting in loan-origination due diligence and the repayment process. All VSLAs wishing to apply for loans through LEAF will be required to register with NAPEX.

By year's end, FED trained 21 pilot VSLA groups and assisted six groups to register with NAPEX. All six were pre-approved to receive loans from the Central Bank to be used for on-lending to their members.

#### ***Sub-Activity 2.1.4 Pilot Embedded Financing***

The FY14 work plan called for FED to pilot the use of embedded financing and services between Go Buy Chop traders and vegetable farmers, and between Wience and rural agro-input dealers. FED piloted the use of 20 formal purchasing contracts between Go-Buy-Chop women traders and vegetable farming clusters. However by the end of FY14, the traders had not yet begun pre-financing of production. Wience granted nine rural agro-dealers with US\$56,000 of embedded financing in the form of agro-chemicals on credit, which was meant to support the FED vegetable value chain voucher program benefiting 373 farmers.

## COMPONENT THREE: BUILD LOCAL TECHNICAL & MANAGERIAL HUMAN RESOURCE CAPABILITY

### Task 3: Develop Existing Vocational Centers into Centers of Excellence (CoE) in Vocational Agriculture Education

In FY14, the Ministry of Education (MoE) agreed to adopt the National Diploma in Agriculture (NDA) curriculum, a two-year diploma consisting of 30 courses based on a standardized ECOWAS model. With USAID FED's support, the syllabi and lesson plans for the first two semesters have been developed. A rollout plan has been developed, including how to transition from already existing curricula at Booker Washington Institute (BWI), Nimba County Community College (NCCC), Lofa County Community College (LCCC) and Grand Bassa County Community College (GBCCC). The program also prepared a promotional strategy to attract more students to enroll in the NDA program.

As a result of FY13 lessons learned, the program conducted an organizational capacity assessment of all Centers of Excellence (CoE) in seven areas of interest: governance and leadership, administration, organizational management, marketing and business development, finance, human resource and service delivery. The assessment was conducted to determine their capacity to support and maintain facilities and equipment that USAID FED will put in place. Some of the major findings from the report include:

- Community colleges have limited infrastructural and human capacity to implement the core mandate of teaching
- Facilities such as laboratories and practical field sites have not been established
- Libraries are too small for the student body and are often housed in converted classrooms (only NCCC has a separate library building)
- None of the schools have computers and Internet for online research
- Textbooks are out of date, and the staff have no access to important reference material
- All three colleges are operating with no detailed strategic plans, and this is compromising long-term planning
- There is a huge funding gap and colleges respond by deferring capital expenditure
- Student enrollment continues to grow

Based on the findings of the assessment, the FY14 work plan was adjusted to focus on helping the CoEs build their capacity in order to generate income by leveraging existing resources. Activities, such as in-campus demonstration farms that require recurring costs, were adjusted and redesigned to limit financial pressure on the CoEs. The following major adjustments were implemented in FY14:

- Established two or three enterprises at each CoE instead of setting up demonstration farms, and carried out market research in the CoEs' surrounding areas
- Assisted with developing a CoE strategic plan
- Worked with the CoEs to identify low-cost innovative approaches with fewer recurring costs, e.g., leveraging private sector resources
- Decided to temporarily shelve activities with recurring costs such as the hiring of personnel to man the career resource centers
- Revisited and revised the MoUs with the CoEs to reflect lessons learned and ensure greater accountability of the CoEs

In spite of the adjustments, USAID FED continued and successfully delivered on several activities planned.

Table 18: Students Enrolled in CoE Agriculture Departments

<b>Institution</b>	<b>Males</b>	<b>Females</b>	<b>Total Enrolment</b>
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
<b>TOTAL</b>	<b>547</b>	<b>198</b>	<b>745</b>

### **Activity 3.1 Complete Development, Review Finalization and Acceptance of the NDA Curriculum**

In the first half of the year, USAID FED provided technical assistance to the Ministry of Education's Director of Technical Vocational Education and Training, Saku Dukuly, to prepare for the rollout of the National Diploma for Agriculture (NDA) curriculum in academic year 2014-15.

In March, USAID FED sponsored a one-day NDA curriculum review workshop to revise the NDA structure. Workshop participants analyzed the courses and the division between practical activities and theoretical content. In addition, faculty from the NCCC presented the results of the six courses they piloted during the first semester of 2013-14. Twenty-one representatives from key stakeholder institutions, including the MoE, MoCI, the National Commission on Higher Education (NCHE), the Food and Agriculture Organization (FAO), WFP, the 4-H Club Liberia and key faculty from the departments of agriculture of BWI, LCCC, NCCC and GBCC participated in the workshop. Results of the meeting include:

- The additional mathematics and statistics courses are too advanced for the NDA and were removed
- Physical Education and Reserved Officers Training Corps will not be included in the NDA
- The MoE will address the NDA draft curriculum in terms of course credits, accreditation, and the transferability of the diploma credits toward higher education, while ECOWAS will review the final draft of the curriculum to ensure that it meets the regional TVET standards
- Major inputs include the integration of gender, environment, traditional farm knowledge, and industry alignment in relevant courses

NCCC students piloted eight courses, including Agri-Business and Soil Fertility and Crop Nutrition. The lessons learned and best practices will be consolidated to guide the expansion of the curriculum to four more vocational training centers in Liberia under the MoE in 2016.



USAID FED assessed the background and capacity of 60 individual instructors from four CoEs' departments of agriculture, business, IT and English to determine their ability to teach the seven initial NDA courses expected to be taught in September 2014. Twenty instructors were selected to work on the syllabi and lesson plans, and teach the NDA courses in the first two semesters of the 2014-15 academic year.

### **Development of Syllabi and Lesson Plans for NDA Fall Semester 2014 Courses**

USAID FED, in collaboration with partner institutions and 28 instructors at the CoEs, completed the development of 15 syllabi and lesson plans for the seven NDA courses that will be taught in the first semester. USAID FED also catalogued available textbooks and teaching resources and made recommendations for resources (books, supplies, equipment, lab facilities) that are still needed for the proper delivery of each course.



*Figure 39: Workshop participants in session at NCCC USAID FED-supported Library, Nimba County.*

By the end of June 2014, the seven syllabi and lesson plans for the first semester were completed. The seven courses are:

- Principles of Animal Production (Lesson 1 – 15)
- Communication in English (Lesson 1 – 15)
- Principles of Crop Production (Lesson 1 – 17)
- Agriculture Math (Lesson 1 – 15)
- Computer Application (Lesson 1 – 15)
- Introduction to Farm Woodland Management (Lesson 1 – 15)
- Introduction to Soil Science (Lesson 1 – 15)

In Q4, a 10-day workshop was held at the Nimba County Community College Campus in Sanniquelleh, Nimba County, to develop the second semester lesson plans and syllabi for the NDA program. Fourteen instructors from the four CoEs plus USAID FED representatives participated in the workshop. The team completed the NDA first and second semester (Year 1) curriculum.

### **NDA Curriculum and TVET Coordination Meeting Held at FED Office in Monrovia**

At the June NDA Curriculum Review Session, partners agreed on the following recommendations:

- Institutions pledged to have at least two additional instructors able to teach the NDA program
- USAID FED, the NCHE and MoE should work closely, and USAID FED will follow up with the individual institutions to determine transferability of the NDA credits
- The MoE will look into the possibility of establishing a board that will certify students upon graduation to better gauge the diploma's results.

USAID FED and MoE agreed to begin promoting the NDA rollout in Q4 FY14. USAID FED aired the NDA drama on radio stations in Monrovia, as well as the partner rural radio stations in the counties. USAID FED planned to officially launch the NDA program at BWI in September, but cancelled the event due to the Ebola outbreak. Soon thereafter, the government closed schools across the country. A new timetable has been planned for March 2015.

### **Activity 3.2 Support Library and Agriculture Departments with ICT at CoEs' VAEs**

#### **ICT Equipment and Information Resources**

USAID FED distributed the following equipment to the MoE's Bureau of Science, Technical Vocational and Special Education (BSTVSE) to build the capacity of its office:

- Five Ti-B4 plus calculators and two copies of Mathematical Applications in Agriculture textbook as resource training equipment.
- One desktop computer (Dell OptiPlex 390).
- One laptop (HP Elite Book 4540).
- One HP color laser jet printer (CP2025DN).
- One Optima projector (DS330 DLP projection display).

#### **Nimba County Community College (NCCC)**

In Q2 FY14, USAID FED delivered 13 desktop and three laptop computers to NCCC along with three projectors, one large screen and office furniture. The program's IT staff configured the computers network and the operating systems. The installation of the VSAT Internet networking equipment was also completed at the library. The network for the Agriculture Department and Career Resource and Internship Center still needs to be completed.

In June, the server for NCCC arrived, was configured by USAID FED and delivered to the CoE. The additional server will have a major impact on increasing the Internet speed for this CoE.

USAID FED developed an operational strategy for the fee-based Internet and photocopying services in collaboration with the NCCC's president. USAID FED will support NCCC's library to improve record-keeping. In addition, campus-wide policies regarding Internet access will need to be instituted once the server and the cyber management software have been installed. USAID FED will help NCCC formulate policies and procedures, procure cyber-management software and teach the relevant staff to use it.

#### **Lofa County Community College (LCCC)**

IN FY14, the program renovated the LCCC's admissions office, the Department of Agriculture's teachers' lounge, the library, study rooms, and the IT office and server room. USAID FED also supported the renovation of the Career Resource and Internship Center and the Department of Agriculture's finance and administration office. USAID FED put the VSAT cabling on hold until LCCC administrators complete a CoE business plan. A proper business plan will identify sources of revenue available to cover the costs of operations, specifically the cost of Internet connectivity, when USAID FED phases out (Figure 40).



Figure 40: Study room (left) and library shown here with textbooks and furniture at the LCCC.

In June, the server for LCCC arrived, was configured by USAID FED, and delivered to the CoE. The additional server will have a major impact on increasing the Internet speed for this CoE.

USAID FED inspected the internet installation at the LCCC. The 1.8m VSAT C-Band antenna was delivered to LCCC, enabling its Internet connection to function properly. A team of contractors completed the Internet cabling throughout the CoE, including the Department of Agriculture teachers' lounge, the library, and the administration building. USAID FED conducted a needs assessment to determine the information resources needed at LCCC that covered library resources such as satellite Internet system, computers, printers, LCD projectors and photocopying machine.

### **Grand Bassa Community College (GBCC)**

GBCC's move to the Paynesberry campus was stalled due to the delay in conducting the construction assessment. As a result, the program's plan to establish the necessary facilities to support the development of the GBCC as Center of Excellence for Vocational Agriculture Education was delayed.

Regarding the VSAT bandwidth and provision for Internet Service Provider (ISP), the GBCC has included Internet expenses, including subscription and routine maintenance, in its 2014-2015 fiscal budget, amounting to approximately US\$16,700. The selection of an ISP will be done through competitive bidding. USAID FED will assist in developing technical specifications for Internet equipment and in evaluating the qualification of bidders.

### **Booker T. Washington Institute (BWI)**

The high electricity or power cost continues to challenge the CoE's ability to sustain the operation of the facilities, including Internet connectivity that USAID FED plans to put in place. In an effort to reduce this cost, USAID FED collaborated with USAID Liberia Energy Sector Support Project (LESSP), to determine the possibility of providing a renewable energy source to the Department of Agriculture. USAID FED initiated a survey in Q2 and expected LESSP to finish the assessment in Q3. However, due to competing priorities, the feasibility analysis was not completed. USAID FED installed three overhead ceiling fans at BWI.

### **Flash Web for E-Library Development**

In FY14, USAID FED initiated the development of a Flash website e-library which stores soft copy references, instructional materials, publications, fact sheets, videos, photos, graphics and any other material needed by the CoE instructors to improve the content of their courses.

Once the website and content have been uploaded in a Flash multimedia software platform, it would then be downloaded onto Flash Players so that the contents can be accessible on a wide range of computer systems and devices without the need for Internet. The players will be made available to CoE libraries for access by the students and faculty.

USAID FED advertised for a local firm to create the Flash website design. However, none of the local firms that submitted a proposal met the requirements. The advertisement was later opened to international firms, but the quotes provided were unreasonably high. USAID FED will revisit this plan in FY15 and check other options.

### **Activity 3.3 Establish Agriculture Science Laboratories at the CoEs**

In FY14, FED developed and signed MoUs with the four CoEs (NCCC, GBCC, LCCC and BWI) to set up Soil Analytical and Teaching laboratories, also known as science labs, in their respective campuses.

In Q3, USAID FED hired a science laboratory specialist and engineer to assess the equipment list for the agriculture science labs and facilities, with a special focus on the electrical fixtures and clean water supply. The assessment team completed the assignment and created a lab blueprint complete with major equipment, fixtures and a budget.

In Q3, USAID FED hired an architectural and engineering firm to vet the assessment and blueprints of the labs. Global Engineering and Mechanical Company was hired to assess the agriculture science lab space and provide blueprints for each institution, as well as provide an estimate of the cost requirement to complete the renovation. Ahead of the completion of the assessment, USAID FED has also begun procurement of the approved equipment for the agriculture science labs.

Additionally, USAID FED hired a soil science expert, Emmanuel Lincoln, to evaluate all technical specifications to finalize the list of equipment for procurement.

USAID FED prepared reporting templates to gather information on the usage of the agriculture science labs by faculty and students for both teaching activities and fee-based services to community farmers. Once the labs are established, the program's Vocational Agriculture Education Officers (VAEOs) will be expected to assist in the training of the faculty and lab technicians in record keeping.

In Q4, USAID FED VAEOs and eight instructors from the four CoEs participated in a week-long soil analysis training on soil sampling techniques, which took place at the program's Bong County office (Figure 41). The workshop was one of several laboratory training sessions meant to build the capacity of instructors, who will then transfer skills and knowledge to students. The instructors will manage and facilitate practical laboratory demonstrations at each of the CoEs during the rollout of the NDA.

In Q4, USAID FED hired Senior Engineer Jlateh Pajibo to supervise the soils laboratory renovation. USAID FED concluded an on-site compliance assessment, and reviewed the design and estimates of the technical draft reports for LCCC and NCCC, submitted by an architecture and engineering firm. USAID FED is currently reviewing reports for GBCC and BWI.

### ***Activity 3.4 Establish Demonstration Farms on Improved Technology and Production Practices***

#### **NCCC Demonstration Plot**



*Figure 41: STTA Soil Scientist Dr. Sampson demonstrating soil-testing equipment, Bong County.*

USAID FED supported several demonstration farms at NCCC including rice-fish farming. The demonstration farms provided a productive learning experience for students, but needed external support in order to continue operations. The demo sites' yields were lower than expected, producing lower returns, which do not justify the costs. This means that when USAID FED moves on, the CoE will not be in a position to continue the activities. To address the issue of sustainability, USAID FED revised the approach, and instead of building demo sites for each of the program's value chains, USAID FED limited the demo sites depending on the CoE's capacity. Demonstration farms will now be treated first, as enterprises, and second, as demonstration sites.



Figure 42: Lowland rice site at NCCC, Nimba County.

In Q4, USAID FED and NCCC signed a MoU to support the development of cassava, rice and goat enterprises at the CoE. The MoU stipulates that NCCC has to appoint a management team composed of a business manager, farm manager and marketing officer. It further requires the preparation of a development plan for each enterprise, which includes a marketing plan. The MoU requires the institution to provide 100 percent of the labor requirements, and USAID FED will provide all the necessary inputs and technical assistance.

In Q4, USAID FED provided technical assistance to NCCC in the development of a business plan for the USAID FED-supported enterprises covering eight hectares. Even during the Ebola outbreak, while the institution is closed, NCCC staff and

students continued working on the institution's farming activities.

By the end of FY14, the NCCC students transplanted rice seedlings on 24 plots, repaired the bunds and leveled 2.5 hectares for cultivation of lowland rice.

### **Cassava Processing Enterprise at NCCC**

USAID FED conducted a cassava assessment survey to determine the level of cassava production in the district of Sanniquellie-Mahn and to determine the input capacity of the cassava mill that will be supported for the cassava enterprise. Twenty-three farmers from 10 communities in the Sanniquellie-Mahn District participated in the survey.

### **Goat Shelter Construction**

In Q4, USAID FED contracted sawyers to cut planks for goat shelter construction at NCCC. USAID FED will hire a lead carpenter to manage the construction of the goat shelter while NCCC will provide the labor in FY15 (Figure 43).

According to the MoU, NCCC will provide the goats and the trees for the construction of goat shelters, and USAID FED will hire the sawyer and transport the lumber to the goat production site.



Figure 43: Sawn planks ready for goat shelter construction at NCCC, Nimba County.

### **BWI Demonstration Farm**

USAID FED supported the vegetable and rice demonstration farms at BWI by providing seeds, fertilizers, tools and drip irrigation kits. USAID FED also trained 349 students on lowland rice production. However, BWI's rice yields were low, and USAID FED had to pay for labor to maintain the field during the student's holiday break.

USAID FED also supported composting as an agribusiness



endeavor; however, the program then realized that the institution needs help in managing the business. In FY15, FED plans to hire a STTA with agribusiness expertise to help the CoEs with their agricultural enterprises. The STTA will also help BWI in improving the profitability of its composting business.

In Q2, USAID FED worked with the agriculture student club, Future Farmers Association, to expand the organic vegetable production and drip irrigation demonstration site and conducted a practical training session with 103 participants on how to set up and manage a drip irrigation system.

In Q3, USAID FED conducted an assessment (Figure 44) of the BWI campus and worked with the head of the Accelerated Vocational Training Program (AVTP), teachers and the Agriculture Department to determine what activities have potential for income generation.



Figure 44: USAID FED staff meets with BWI leaders to prepare a strategy for the NDA roll-out and student orientation prior to the semester.

The following are excerpts from the report of the STTA, Don Breazeale, stating his findings and recommendations covering BWI and the other CoEs regarding demonstration farms and enterprise development. :

- 1) FED should establish a demonstration farm at each school.
- 2) Each farm needs a whole farm plan and accompanying budgets.
- 3) Schools need “one-on-one, continuous” mentoring to develop plan and budgets.
- 4) Need bench marks to measure progress

toward sustainability and cooperation.

- 5) Start implementing an “enterprise”, don’t wait to complete training.
- 6) AVEOs needs business training to take the lead on enterprise development

Based on the above findings, FED has made enterprise development at the CoEs a major focus in FY15. These enterprises are very important in terms of their potential to generate revenues for the CoEs as well as to show evidence that the CoEs have a good grasp of the principles and best practices in agriculture and agribusiness. They will be regarded primarily as enterprises rather than learning laboratories. In order to increase the chances of success, FED will be hiring a Senior Agribusiness Advisor (STTA) who will be dedicated in helping these CoEs establish profitable agricultural enterprises.

### **Agriculture Production Plan**

In Q4, USAID FED and BWI completed an agriculture production plan to serve as a performance indicator for the Department of Agriculture at BWI. USAID FED and the BWI agreed to develop one hectare for vegetable production commencing in September 2014.

### **Farming Enterprise Activities**

In Q4, USAID FED revised and signed the MoU to establish two enterprises at BWI. The MoU identifies vegetable production and composting as the two agribusinesses that USAID FED will support. The agreement requires BWI to create a management team composed of a business manager, farm manager and marketing officer who will oversee operations of the enterprises. In addition, the MoU requires BWI



to provide labor and develop an enterprise development plan — including a marketing plan — for each enterprise. USAID FED will provide the agricultural inputs and equipment needed to develop the enterprise; and also provide technical assistance.

### **BWI Received Assorted Farming Inputs**

In FY14, USAID FED provided assorted hand tools, a platform scale for up to 500 kilograms, a wood chipper and other equipment to BWI's Department of Agriculture (Figure 45).

BWI's Principal approved the vegetable enterprise production plan and budget and gave authority to the technical advisor, Jacob Swee, to immediately commence the operation of the vegetable enterprise.



*Figure 45: Assorted farm inputs at BWI, Margibi*

The farm manager started vegetable cultivation on the one-hectare plot in September, 2014. Planting materials and fertilizers have been dispatched to the site for the establishment of the nursery.

The enterprise's business manager is expected to finish writing the business plan for the vegetable farm in FY15.

### **Kakata Rural Teachers Training Institute (KRTTI)**

In FY14, USAID FED organized a two-day ToT training in cassava and vegetable production at KRTTI for 10 of the KRTTI production staff members and 256 students. At the end of the training, participants were able to demonstrate improved vegetable and cassava production practices.

In turn, USAID FED supported the development of a two-hectare cassava farm (Figure 46) and a one-hectare vegetable production site at KRTTI by providing tools, seeds, and fertilizers. KRTTI provided the labor and all other inputs. However, KRTTI could not fully man the production site and was forced to reduce the number of staff from 12 to four, resulting in poor plot maintenance that was aggravated by lack of water.



*Figure 46: KRTTI cassava farm, Margibi County.*

Project activities at KRTTI, which began in December 2013, ended in June. In August 2014, schools were closed due to the Ebola crisis. KRTTI, however, continues to employ nine laborers who maintain the cassava farm.

## LCCC Demonstration Sites



*Figures 47 and 48: LCCC Representatives at the enterprise warehouse with farming inputs, Lofa County.*

In FY14, USAID FED and LCCC signed a MoU to collaborate on developing a rice and goat enterprise at the CoE. Under the agreement, the enterprises would facilitate practical training exercises for the NDA program. USAID FED delivered assorted farm inputs for the development of 4.78 hectares of lowland rice and for raising 25 goats on the demonstration sites (Figures 47 and 48). In Q4, the rice crop reached the grain filling stage and harvesting will follow.

### **Goat Shelter Construction at LCCC**

In Q4, USAID FED and LCCC identified the trees that will be used for wooden planks needed for the construction of three goat shelters. LCCC also appointed a general manager, farm manager and a marketing manager for the USAID FED-supported farm enterprises.

### **GBCC Demonstration Sites**

In Q2, USAID FED recommended the establishment of a high-value vegetable farm enterprise adjacent to GBCC's Paynesberry campus. The GBCC successfully acquired 158 acres of land from the community near Big Joe Town where the CoE will establish its farm enterprises and the future rice mill and cassava-processing operations. The cassava enterprise (farm development and processing) and greenhouse vegetable demonstration enterprise will be adjacent to the Paynesberry campus.

By the end of FY14, GBCC appointed the farm, business and marketing managers to run the enterprises. GBCC teachers, students and manual laborers then began land preparation for the vegetable farm. The same students will continue to take care of the farm. USAID FED handed over farming tools and other inputs mentioned in the MoU to the GBCC.

## **Activity 3.5 Establish Career, Resource and Internship Centers at CoEs**

### **CoE Teacher and Student Capacity-Building for Leadership Development**

In Q2, USAID FED conducted two workshops on integrating instruction, leadership and service learning. Seven agriculture teachers from the four CoEs and seven agriculture student organization leaders from the NCCC attended these workshops.

### **Booker T. Washington Institute**

In FY14, a total of 54 BWI agriculture students (40 males and 14 females) formed a club of agriculture students called the Future Farmers Association. The club's main objective is to make a positive difference in the lives of agriculture students by developing their potential for leadership, personal growth and a successful career through agriculture education.

By the end of Q2, the Future Farmers Association (FFA) of BWI, grew to a total membership of 125 students. The students prepared a plan for the installation of the FFA interim leadership in May 2014 (Figure 49).



*Figure 49: The Future Farmers Association (FFA) leadership team planning the installation event.*

### **Establish Career, Resource and Internship Centers at CoEs**

Based on findings that the CoEs are financially challenged to support additional programs, it was decided to integrate career and internship programs with the NDA courses. In Q3, USAID FED worked with CoE instructors to integrate activities for student career development and exploration into each of the seven NDA courses that will be rolled out in the first year. The activities include career days, guest speakers, field trips and interviews with agriculture and agribusiness leaders. This effort coincides with the development of program partnerships and internships that will allow the CoEs to leverage external resources and ensure program sustainability.

A list of general partners for each institution was developed. The list included 67 partners located near the CoEs (LCCC, 31 partners; NCCC, 11 partners; GBCC, 11 partners; and BWI, 14 partners) and another 27 nationwide partners that are relevant for specific courses.

### **Activity 3.6 Development of Agricultural Extension Curriculum and Expanding Community Outreach program and Community-Based Farming Activities**

#### **Agriculture Scholarship Fund Established at NCCC**

With fundraising assistance from USAID FED, the Agnes Nenah Teakpah Scholarship Fund was established at NCCC in Q1 FY14. Agnes Teakpah is the first scholarship recipient for the first semester of the 2014-15 academic year (Figure 50).

The scholarships are meant for adults who have returned to school to receive an education in agriculture and who best embody the values of the CoE, i.e., someone who is a hard worker, team player, honest, service-oriented, and committed to excellence. To date, US\$200 has been collected and another US\$200 pledged. At NCCC, each credit hour costs US\$3, and the CoE expects to award four scholarships in the fall semester.



*Figure 50: Agnes Teakpah, scholarship recipient for the first semester for the Nenah Teakpah Scholarship Fund.*

#### **Agriculture Students Benefiting from USAID FED Assistance**

USAID FED commenced work on a comprehensive record of all students currently enrolled in the agriculture faculties at each CoE. The number of students fluctuates

from semester to semester, since many of the students wait for scholarships from the Government of Liberia and other organizations before completing registration. According to the most recent census, 745 students are enrolled in agriculture at the CoEs. The breakdown among the four CoE is as follows:

*Table 19: Teacher and Student Enrollment in Agriculture*

<b>Center of Excellence</b>	<b>Males</b>	<b>Females</b>	<b>Total</b>	<b>Teachers</b>
Lofa County Community College	197	51	248	9
Grand Bassa Community College	49	27	76	4
Nimba County Community College	96	48	144	3
Booker Washington Institute AVTP	72	14	86	6
BWI Regular Program	133	58	191	-
<b>TOTAL</b>	<b>547</b>	<b>198</b>	<b>745</b>	<b>22</b>

### **Global Development Alliance (GDA) for Community Kitchen Incubators at the CoEs**

USAID FED submitted a proposal for approximately US\$1.5 million to the Chevron Liberia Economic Development program for a Global Development Alliance (GDA) grant to establish Community Kitchen Incubator programs at the CoEs. The establishment of Community Kitchen Incubators would address the multi-level challenges of increasing food and nutrition security, as well as develop new business formations in the agro-food sector. Agricultural students and community residents will be taught on how to safely preserve, process, package, market and sell processed food products in higher-value consumer and wholesale markets.

Community kitchens also serve as food service canteens on the CoEs' campuses, which currently have a combined population of 4,813 students and faculty. Should the submission make it through the pre-proposal stage, USAID FED will work with each of the CoEs to develop sub-proposals that will be rolled into the full proposal.

### **Activity 3.7 Capacity Development and Business Plans to Ensure Funding to Maintain and Operate Equipment, Facilities and Internet Connectivity**

#### **Capacity Development and Business Plans to Ensure Funding to Sustain CoEs**

USAID FED conducted three workshops to identify a strategy to ensure the sustainability of facilities and equipment put into place by USAID FED. A total of 41 CoE administrators and staff collaborated and drafted vision, mission and values statements. The workshop participants also identified critical issues that need to be addressed to move forward with the development of their sustainability plans and the prioritization of enterprises which their business plans focus on.

USAID FED prepared training materials for an intensive five-day "Planning a Commercial Farm or Agri-business" ToT program. There were two sessions carried out at each CoE in April and May.

#### **CoE Energy Consumption Analysis**

USAID FED engaged a local engineer to assess the generators' fuel consumption in each CoE in order to develop a cost-benefit analysis to determine the possibility of switching to a renewable energy source to provide electrical power. Engineer Prince Stryker assessed the generators and their fuel consumption and has presented his findings that are summarized below:

**BWI:** A new generator consumes around five gallons of fuel per hour (1,600 gallons per month) at an annual cost of US\$96,000. The cost of maintenance and manpower is estimated at an additional US\$5,800.

**GBCC:** There is an 88KvA generator on GBCC's new Paynesberry campus that supplies energy to three workshops. However, since the GBCC continues to operate at the former campus, the demand assessment was made based on a 60KvA generator. This generator is operating at 47 percent capacity or 16.8KvA, at an annual operational cost of US\$35,360.

**NCCC:** The generator is in very poor condition, unreliable and has a faulty monitoring device, making it difficult to determine the voltage, current, frequency, and temperature. The generator was repaired twice in the last year. The annual operational cost for the current generator is US\$27,705. NCCC has learned it could potentially connect to the local power grid and is working on the possibility.

**LCCC:** The LCCC has two new generators: a 65KvA and an 88KvA. The generators operate in turns, and the maximum current on each generator is 10 amps per phase. The 88KvA operates at 7.9 percent capacity or 4KvA, and the 65 KvA generator operates at 10.6 percent capacity. Each generator should support a heavier load since it is unsafe to operate the machines without a load. Each machine consumes one gallon of fuel per hour for an annual operational cost of US\$24,550.

In Q4, USAID FED scheduled a discussion with CoE administrators about the results of the analysis. The meeting was cancelled due to the Ebola outbreak and will be picked up in Q1 of FY15.

### ***Activity 3.8 Student Faculty Immersion in Successful Vocational Education Programs***

USAID FED reviewed this activity and proposed a CoE faculty exchange program that will send Liberian instructors to Ghana instead of the United States. The Ghana alternative was considered to be more affordable, and will permit more Liberian faculty to travel and study, compared to the cost of sending faculty members to the United States. Secondly, Ghana's agriculture institutions are technically more relevant to Liberia since the West Africa region shares similar ECOWAS curriculum, and there are more agricultural ecological and socio-economic similarities.

In FY15, the program will select at least two faculty members (administrators and instructors) from each of its four partner institutions to travel to the recommended institutions in Ghana on an exposure visit, in order for them to enhance program delivery, ensure sustainable management of the institution and assure employment for the graduates.

Ahead of the exposure trip, the project has hired an international consultant in Ghana to travel to the Brong, Ahafo, Ashanti, Volta and northern regions to gather information on Ghana's agricultural institutes and colleges. The consultant is expected to finalize his report in Q1 FY15.

### ***Activity 3.9 Support Agriculture Graduates in Post-Graduate Studies***

In Q1, USAID FED helped four Liberian graduate students to apply for post-graduate studies in U.S. universities to study plant pathology with a focus on rice and vegetables, soil science or livestock. They will go to USAID FED partner universities, the Louisiana State University (LSU) and the University of Arkansas. The activity is in line with USAID FED's mandate to build human managerial and technical capacity to support agriculture development.

USAID FED has signed a MoU with LSU to support two students with degrees in agriculture for post-graduate studies in soils and horticulture. Wooklee S. Payee started his graduate studies in soil science at LSU in January 2014 and returned to Liberia in July 2014 to begin his thesis research project, which evaluates the introduction of UDP to Liberia. His research trial was set up at CARI where he collected both plant and soil samples from the trial field for analysis upon his return to the U.S.A. He returned to LSU in August 2014 to complete the second year of the program. His research will measure the

contributions of UDP, urea broadcast and the traditional farmer practice to soil fertility and their respective impacts on the environment.

Randolph Kolleh, a graduate of the University of Cuttington, applied to the University of Arkansas to study plant pathology, focusing on rice, which he studied extensively during his undergraduate work. Kolleh, along with two other candidates from the University of Liberia, took the Graduate Records Examination (GRE), a standardized test that is an admissions requirement for most graduate schools in the United States, in March 2014. Unfortunately, Kolleh did not meet the university's requirements.

Former USAID FED Cassava Extension Officer, Boone Harris, successfully enrolled at LSU and travelled to the US in August 2014 along with Wooiklee Payee. Boone started attending classes in August 2014. Boone Harris is the second student from USAID FED to be admitted for post-graduate studies in fulfillment of the MOU between USAID FED and LSU.

## **Task 3.1: Enterprise Service Centers**

### **Principal Objectives for FY14**

In FY14, USAID FED identified qualified business entities that would invest in setting up four Enterprise Service Centers (ESCs) in Bong, Nimba, Lofa, and Grand Bassa counties. The four ESCs would offer business development services (BDS) and agriculture services to at least 50 MSMEs in FY14 and create a sustainability plan for post-USAID FED operation. In addition, USAID FED aimed to support the establishment of an agriculture “desk” at the National Business Development and Advisory Center (NBDAC) in Monrovia.

### **Milestones in FY13, Challenges in Programmatic Implementation**

#### **Identification of ESC partners and business service providers (BSP)**

- Grand Bassa: Community Youth Network Program (CYNP)
- Bong: Green Coast Agricultural Program (G-CAP)
- Lofa: Jacob F. Tomei Enterprise

USAID FED assisted all three partners to develop business plans for the self-sustaining operation of their respective ESCs.

#### **Business Registration**

Nineteen agri-businesses and farming organizations were registered in the four counties with the help of USAID FED county extension staff.

#### **Business Development Services**

A total of 2,193 MSMEs, including farmers, received business development support services from USAID FED. A total of 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.

USAID FED was able to identify three service providers in Bong, Grand Bassa and Lofa counties interested in investing in ESCs, as envisioned in the FY14 work plan. USAID FED planned to equip them and renovate their facilities to house additional equipment in the last quarter of FY14. However, this did not happen due



to the evacuation of the FED staff in charge of ESC establishment in early August. Additionally, USAID FED was not able to establish the agriculture desk of the NBDC due to several challenges.

USAID FED's original vision was to establish private-sector ESCs near or at the location of public-sector-supported community colleges. This set-up will allow ESCs to easily collaborate with USAID FED-supported Centers of Excellence. USAID FED hired a business and capacity-development expert to locate investors and investigate the option of co-location with CoEs. It became clear through the Expression of Interest (Eoi) process and from several strategic planning workshops that the 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.”*

Since project inception, USAID FED has identified and worked with numerous service providers located in the counties that are skilled in providing agriculture services (such as extension services and equipment operation) and business development services. However, USAID FED 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 had no prior experience delivering *business development support* (BDS) services, and they lacked knowledge of how to manage and plan strategically for their own operations.

USAID FED spent additional time to train and mentor the three business service providers (BSPs) in conducting market studies and producing 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 FED will require substantial mentoring and coaching from an expert before they can effectively provide BDS services to other entities.

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 qualified ESC partners. While the three BSPs all had 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 would be able to secure loans for the remaining portion on amenable terms, especially since the first year of cash flows would be strained. Based on these findings, USAID FED has changed its approach in the provision of BDS through service providers in a completely different manner (see the FY15 annual work plan.)

The senior business and capacity-development expert spent Q2 through Q3 locating the three investors and training and mentoring them to come up with their business plans. FED planned to equip them in Q4 of FY14, however due to the challenge of coming up with the 15% cost-share and the evacuation of the senior business and capacity development expert, the ESCs were not up and running at the end of FY14. Because of the delay, USAID FED had planned to pilot the provision of mobile training forums in the counties to reach a minimum of 50 MSMEs with basic record-keeping and business registration training and services. However, due to the Ebola outbreak, the availability of staff was limited, movement was restricted, and USAID FED was unable to carry out this activity.

## **FY14 Activities**

### **Activity 3.1.1 Research / Investors Search**

The FY14 work plan called for USAID FED to build on the research conducted by June Lavelle and Earnest Musinamwana in Q4 of FY13. The work plan aims to further evaluate additional services that could be offered to existing agribusinesses; evaluate optimal physical locations, get estimates for any necessary facility refurbishment and locate investors through an expression of interest. Once located, investors would be consulted in the final design and array of services to be offered. During this time, USAID FED will create additional extension materials, such as extension videos, that can be used by the ESCs. As noted earlier, USAID FED hired a senior business and capacity-development expert to do this and identified three BSPs.

### **Community Youth Network Program (CYNP)**

Located in Buchannan, Grand Bassa, CYNP was originally established in 2007 as a community-based, not-for-profit organization whose primary purpose was to contribute to the sustenance of peace and development. It aims to raise awareness among youth about issues that affect them, including health, agriculture, youth employment and the protection/rights of women and girls. CYNP works in Grand Bassa and Montserrado counties and employs 15 staff. Since 2010, 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.

### **Green Coast Agricultural Program (G-CAP)**

Located in Gbarnga, Bong County, Green Coast Agricultural Program (G-CAP) Inc. was established in 2008 as a non-government organization composed of professional young people. G-CAP 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. It will function as the ESC for Bong.

### **Jacob F. Tomei Enterprise**

Located in Foya, Lofa County, the Jacob F. Tomei Enterprise Center is a for-profit entity established in 2009. It provides services to local farmers in areas of land preparation with power-tiller services, training services for processing of rice and cassava, and transportation services for agricultural raw materials. In 2011, the center began training power-tiller operators and now has a network of 35 trained and qualified operators. In Q4, an additional request for Expression of Interest (Eoi) was released to locate partners in Nimba and Montserrado/Margibi.

### **Activity 3.1.2 Set Up Legal Organization and Physical Center**

As a result of the mentorship provided by the USAID senior business and capacity-development expert, the Jacob F. Tomei Enterprise Center was officially registered as a business. CYNP was legally registered as a for-profit social enterprise subsidiary under its parent company. In Q4, USAID FED revised the optimal business model for the ESCs.

### **Activity 3.1.3 Training and Exposure Visit to functional ESCs in Africa**

The USAID FED's senior business and capacity-development expert spent several months delivering two business skills workshops and one-on-one mentorship with the three identified investors. Again, by Q4, USAID FED was revising the optimal business models for the ESCs and had not conducted a site visit to other business development service centers in Africa, such as Centre d'Entrepreneuriat et d'Innovation Rurale CEIR in Burundi.

### **Activity 3.1.4 Monrovia-based Business Development Center**

USAID FED was approached by IBEX and the National Investment Commission Project Implementation Unit for funding. They asked the USAID FED to finance the market study, business plan and initial operation of the National Business Development AND Advisory Center (NBDAC) in Monrovia. USAID FED will ultimately provide support to the group in setting up an agriculture desk at the NBDAC.

However, due to compliance issues and differences in strategies for this initial project, USAID FED was not able to provide funding. USAID FED did provide support to IBEX in the form of a revised statement of work, aimed at finding a business service provider to conduct a market assessment and write a business plan for the NBDAC. USAID FED will move forward with establishing a Monrovia-based ESC, which can later be integrated or referred to by the NBDAC, once it is established in FY15.

### **Activity 3.1.5 Providing Business Development Services to FY13 FED-supported Farmer Groups**

The FY14 work plan called for FED to assess the business service needs of FY13 FED farming clusters in order to deliver capacity-building. In Q1, USAID FED completed a pilot program to train farmers (31 groups, 790 farmers) under the USAID FED-created Farming as a Business curriculum, which includes farm planning, determining basic product profitability, record-keeping and accessing finance.

In Q2, a list of 56 groups was generated by the county teams of Year One and Year Two farmer groups in need of business development services. The USAID FED senior business and capacity-development expert developed a questionnaire and an activity to hire an NGO to conduct the assessment. The activity was canceled, however, and the questionnaire was used instead to help the three identified service providers conduct market studies to support their business plans.

USAID FED planned to pilot the provision of mobile training forums in the counties to reach a minimum of 50 MSMEs and provide them with basic record-keeping and business registration training and services. However, due to the Ebola outbreak, the availability of staff was limited, movement was restricted, and USAID FED was unable to carry out this activity.

*Table 20: USAID FED farming groups and BDS.*

	<b>Name</b>	<b>County</b>	<b>Value Chain</b>	<b>Registration Type</b>
1	Community Youth Network Program, Inc.	Grand Bassa	All (ESC)	Corporation
2	Boakai Business Center	Bong	Trader	Sole Proprietorship
3	Bong Multipurpose Cooperative Society	Bong	Rice	Cooperative
4	Yalakpormah	Bong	Rice	Association
5	ZAGSHELL Enterprises	Bong	Rice, cassava, veg.	Sole Proprietorship
6	Matu Agriculture Development Enterprise (MADE)	Bong	Cassava	Sole Proprietorship
7	Tohnló Women and Youth	Bong	Cassava	Partnership
8	Menlehkoyee Women Group	Nimba	Veg., cassava	Association
9	Zoelay Memorial Farm	Nimba	Cassava, goat, rice	Association
10	Ganta Oldtimer Women	Nimba	Cassava, rice	Association
11	Zeelie Farmers Association	Lofa	Rice	Association
12	Kpandu Farmers Association	Lofa	Rice	Association
13	Kanjallah Farmers Association	Lofa	Rice	Association
14	Welekermá Farmers Association	Lofa	Cassava	Association
15	Flomocu's And Friends Cassava Farmers	Lofa	Cassava	Association
16	Nawenzu goat farmers Association	Lofa	Goat	Association
17	Agricultural Infrastructural & Investment Cooperative	Lofa	Rice	Cooperative
18	Mernah Farmers Association	Lofa	Rice	Association
19	Jacob F. Tomei Enterprise Center, Inc.	Lofa	All (ESC)	Cooperative

Figure 51: Participants attending USAID FED business training workshop.



## COMPONENT FOUR: CROSS-CUTTING ACTIVITIES

### Task 4.1: Gender

#### Principal Objectives for FY14

The principal objectives of FY14 as they are related to gender are to ensure that at least half of FED beneficiaries are women; to ensure that at least 20 percent of FED-supported micro, small and medium sized enterprises (MSME) are women-owned or managed; to establish and support 124 all-female VSLA groups and provide them with leadership training; and, establish at least one public-private partnership (PPP) supporting an all-women business venture.

#### Milestones in F14, Challenges in Programmatic Implementation

FED accomplished the following 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 of leadership, gender equality, effective communication and negotiation, and public speaking
- Achieved 40-percent female participation in all FED activities
- Seven percent (29 out of 419) of all FED-supported MSMEs are women-owned or managed
- 48 percent of full time employment (FTEs) are women-held jobs

- Established 123 mostly all-women VSLAs in the six counties

Illiteracy among the rural women continues to be a major challenge for FED. It was necessary for at least one of the members of a VSLA to record all VSLA financial activities. In some cases, the groups were forced to admit men into the group to help with this responsibility. Because of this, women participating in the leadership and business training program were required to be literate, which limited the reach of FED to women with education. The two situations highlight the challenges rural women face when attempting to engage in formal business opportunities on a larger scale.

In addition, FED experienced considerable challenges in partnering with Coca-Cola in establishing a PPP for a vegetable protected-cultivation business for urban women. After many consultations, it became apparent that Coca-Cola did not have funding for projects that do not promote their value chain (i.e., selling Coca-Cola products). The idea for the project was an unsolicited proposal submitted by a service provider, Agri-Impact Consult, to FED and Coca-Cola for the latter's "5 by 20" program. FED could not provide sole funding for the project to Agri-Impact, because FED had already hired the company twice previously as a result of Requests for Proposals. Based on this experience, FED strives to partner with private-sector entities that have vested interest in making a profit from agricultural activities within FED's four value chains, rather than companies who only do grants as part of their Corporate Social Responsibility (CSR).

Finally, due to the Ebola crisis, FED was unable to complete the last two training sessions and the mentorship phase of the Leadership and Business Incubation program, which covers strategic planning and goal-setting, record-keeping, and business registration. As a result, it is difficult to measure how much knowledge the women gained and applied from these training sessions. The mentorship will be completed in Q1 of FY15.

## **FY14 Activities**

### **Activity 4.1.1 Partnership with Coca-Cola "5 By 20" program**

Activity was not completed. See Milestones section.

### **Activity 4.1.2 Gender Leadership Training**

The FY14 work plan called for FED to provide leadership training to 50 women who are FED beneficiaries. In FY14, FED more than doubled the goal and began training 106 women from the counties through the Leadership and Business Incubation for Women Entrepreneurs program. The program aims to address two critical constraints facing women: lower human capital (leadership and business skills) and less access to networks and information. The project uses a combined capacity-development approach through basic leadership and business skills training followed by mentorship and a virtual business incubation.

The FED team created customized curriculum that covered the following topics:

- Introduction to Leadership and Gender
- Effective Communication
- Effective Negotiation
- Public Speaking
- Strategic Planning for the Organization
- Record-Keeping
- Business Registration



Figure 52: USAID FED facilitates a workshop session in Margibi County.

FED succeeded in conducting two phases of the training with 106 women focused on leadership, effective communication, effective negotiation, and public speaking in all six counties. Due to the Ebola crisis, the completion of the training was delayed to Q1 of FY15 and will include strategic planning and goal-setting, record-keeping, and business registration. The women will graduate from the program and present their final business profiles and Business Strategy and Action Plan (including the vision and mission statements, goals, action plans, and timelines to achieve those goals). The top 25 women will move onto the mentorship and incubation phase of the program in FY16.

Mentorship and virtual incubation imply one-on-one sessions, both on a scheduled and on an as-needed basis, to assist the women in achieving their goals set out in their business strategy and action plan. Once the Enterprise Service Centers start functioning, it is envisioned that they will provide such a service in the future.

#### **Activity 4.1.3 Ensuring Gender Equality in FED's Activities and Gender-sensitivity in Training Materials**

The FY14 work plan requires FED to continue maintaining gender-sensitivity and equality within FED activities and extension materials. All activities were conducted in-house by FED's Women in Business Officer with oversight by the Enterprise Development Specialist.

FED facilitated a TOT workshop on Gender Awareness in Bong, Nimba and Grand Bassa counties for MoA and FED extension officers. The workshop provided the extension officers with the knowledge and skills to ensure gender equality in all agriculture extension activities. Participants included:

- Bong, 19 Extension officers (15 males, four females)
- Nimba, 9 Extension officers (all male)
- Grand Bassa, 7 Extension officers (six males, one female)

FED conducted Gender Equality and Awareness training for four FED extension officers and 51 group leaders and Lead Farmers as part of the Improved Water Management Training in the rice value chain. FED also conducted the same training for 25 leaders from FED's FY13 VSLA groups.

## **Task 4.2: YOUTH**

### **Principal objectives for FY14**

During FY14, FED's principal objectives pursued under youth were as follows:

1. To focus on increasing youth participation in value chain activities, agriculture and ancillary businesses supporting agriculture across the counties, ensuring 45 percent of supported beneficiaries are youth;
2. To provide the youth with agriculture production skills under the Back to School Garden Program implemented in partnership with other organizations;
3. To provide the youth with training and equipment in special crafts to enable them to generate livelihoods in agriculture value chains;
4. To increase the capacity of local youth organizations by engaging and coaching them to be sustainable business service providers for agriculture value chain actors.

### **Activity specific results**

#### **Activity 4.2.1 Youth focus group discussions**



During the FY14 period, as set forth in the FY14 work plan, the project identified ancillary business support areas where youth can participate within the value chains that were identified for support in FY15. Instead of conducting focus groups as planned in FY14, the team held group discussions with stakeholders in the youth sector of these communities. This included the potential for 25 Youth in Agribusiness pilots that will focus on peri-urban horticulture production, youth as transport service providers under the rice and cassava value chains, youth as power-tiller service providers for lowland rice, youth as machine operators under cassava processors as well as youth as craftsmen (blacksmiths and carpenters). In Q4 of FY14, identification of the potential beneficiaries was in progress. It is expected that a total of 633 youth will benefit from these interventions<sup>3</sup>.

#### **Activity 4.2.2 Develop leadership through 4 H Clubs and Back to School Garden programs**

##### **Back to School Garden Program:**

With the aim to revive agriculture activities in schools and provide agro-entrepreneurship skills to young people to encourage them to consider careers in the agriculture sector, FED, in partnership with Advancing Youth Project (AYP) identified and selected a total of 120 schools (20 schools per county) to participate in the Back to School Garden Program<sup>4</sup>. This was slightly under the FY14 target of 150 schools; only 120 schools were able to meet the selection criteria, specifically, the ability to recruit an agriculture instructor to oversee the Agriculture Youth Club and secure land for the garden's establishment.

While the activity had originally envisioned partnering with 4-H Liberia Clubs, this organization informed FED after the RFP was released that they were no longer interested in this partnership on the grounds that the RFP was beyond their scope of operations. Consequently, three local youth NGOs (CYNP in Grand Bassa, LIPAS in Lofa and G-CAP in Bong) and the Center for Women Agriculture Program Inc. (CWAP) were recruited to provide extension support to the 120 schools. In line with FY14 planning, within a period of seven months, a total of 4,500 students (900 per county) were trained as young gardeners in Bong, Lofa, Nimba, Montserrado, Grand Bassa, and Margibi counties. A total of 60 hectares of demonstration plots (0.5 hectares per school) were established in FY14.

*Figure 53: Field layout, beds preparation and nurseries construction at Bethany Lutheran School, Bong County*



<sup>3</sup> 500 youth will be supported under the 25 Youth in Agribusiness pilots, 29 youth under transport services, 30 youth under power tiller services, 58 youth as machine operators and 16 youth as craftsmen

<sup>4</sup> See list of supported schools supported under the Back to School Garden Program in annex

All the 120 schools signed MoUs with FED. The preparation for on-site demonstrations, mapping of gardens, distribution of garden tools and inputs were completed by Q4. Due to the outbreak of the Ebola epidemic and the subsequent closure of schools, only about 85 percent of the participating schools attended TOT trainings during the months of August and September 2014. These trainings were carried out by the local youth NGOs under technical supervision of FED's county youth extension agents assigned to each of the counties.

*Figure 54: Cassava field at ZRTTI*



#### **Zorzor Rural Teacher Training Institute (ZRTTI) Garden Program**

The ZRTTI garden program was aimed at reviving agriculture activities at the institute and providing agribusiness skills to in-service teachers to encourage them to consider teaching careers in agriculture upon their graduation from the institute. The program also has an agricultural-skills contest and community project components under the FY14 plan. A total of 110 grade school in-service teachers were trained in vegetables and cassava production. Corn, cucumber, watermelons, okra, cabbage, tomatoes and eggplants were planted on a 0.71-hectare demonstration plot. Cassava was planted on 0.5 hectare. It is anticipated that these teachers will impart the knowledge gained from the garden program to institutions where they will be assigned. The institution's administration has committed to expand and improve the garden using funds that will be generated from expected harvests of crops planted.

#### **C. B. Harris Memorial School Vegetable Project**

The C. B. Harris Memorial School vegetable garden project began in February 2013, and was aimed at providing basic agriculture skills and knowledge to elementary students, producing vegetables on 0.7 hectares to buttress the school's feeding program (thereby improving food security, nutrition) as well as generating proceeds from the produce for the upkeep of the school's agriculture youth club. A total of 40 youth teachers were trained on agriculture production skills. The Agriculture Youth Club (AYC) was established and currently has a total of 40 students as members. During Q4 of FY14, 30 bags of corn and 10 bags of cowpea were harvested. However, due to food shortages resulting from the Ebola outbreak in Lower Careysburg District in Montserrat County, the youth club members distributed the harvest among themselves instead of selling their produce.

Figure 55: Students weeding the school garden at C.B. Harris Memorial School, Montserrado County



#### **Activity 4.2.3 Develop youth blacksmiths**

During FY14, a total of 16 youth (two per county) were selected to participate in an apprenticeship with master blacksmiths to develop their skills in fabrication of affordable farming tools for farmers in the counties. This is double the number of youth originally targeted in the FY14 work plan for this activity. However, the apprentice recruitment process was delayed at the county level due to a late application submissions by interested youths. As a result, the training of these selected youth will occur during Q1 of FY15. They will also be provided with tools to enable them to establish their own shop upon completion of the apprenticeship.

#### **Activity 4.2.4 Develop youth carpenters**

A total of 16 youth, also double the number projected for this activity in the FY14 work plan, were selected in FY14 to participate in an apprenticeship with master carpenters hired to construct goat shelters and feeders under the goat value chain. These youth have been in training since August 2014 and are expected to complete the apprenticeship in November 2014, slightly later than planned. It took the project longer than expected to recruit participants, which led to a late start to the training, which, subsequently, delayed the completion of this activity until Q1 FY15. At the end of the training, these youths will be given tools to enable them to establish their own businesses as service providers in their communities.

#### **Activity 4.2.5 CYNP back to school garden contest**

This activity was scheduled to start in Q2 of FY14, but some of the interested schools experienced issues finding land suitable for garden establishment, as well as difficulty recruiting an agriculture instructor, both of which were necessary before FED would sign memorandums of understanding (MoUs) for this activity. These difficulties delayed the commencement of this activity until June 2014, and it is now expected to end January 31, 2015 instead of during FY14 as originally planned. To date, all of the participating schools have an agriculture director (instructor) to oversee the program when FED's support for the program ends. This will help ensure sustainability of this effort.

#### **Activity 4.2.6 UNICEF's national volunteer school garden program**

In partnership with UNICEF and Ministry of Youth and Sports (MOYS), 28 agriculture extension trainers participated in the fifth national youth service program under MOYS where they were trained through ToT on extension service provision and good agricultural practices for vegetables and cassava by FED. This number is on track with the amount of trainers planned for this activity in FY14. These youth volunteers were placed in 148 schools (Nimba 31, Bong 31, Lofa 31, Grand Bassa 24, and Montserrado 31) to provide student gardeners with the agricultural skills needed to plant, grow and harvest cassava and

vegetables. This activity, which was initiated in FY13, was completed in FY14. A total of 28 youth volunteers supported the establishment of 140 school gardens under AYP and trained 5,747 students on garden establishment, exceeding the original target of 4,900 youths. Due to the outbreak of the Ebola epidemic and the closure of schools, the second phase of this initiative was suspended pending review of both parties' roles and responsibilities when schools reopen.

#### **Activity 4.2.7 Development of Youth Organizations as Business Development Service Providers (Agriculture Extension Aides)**

As planned during FY14, four local Youth Agriculture NGOs were contracted to provide extension support to cassava and upland rice farmers under the supervision of the County Offices. A total of 39 youth extension aides were seconded to support the LNGOs in implementing field activities. In January and March of 2014, the 39 youth extension aids and 36 extension agents from the four local youth NGOs were trained by FED on extension services provision in Bong County. The four local youth NGOs subsequently provided extension services to approximately 12,000 cassava farmers and 10,177 upland rice farmers.

They included Community Youth Network Program (CYNP) in Grand Bassa, Evangelical Children Rehabilitation Program (ECREP) in Nimba, Liberia Integrated Professional Agriculture Service (LIPAS) in Lofa and Green Coast Agriculture Program (G-CAP) in Bong. Through supervision from FED, these youth NGOs have assisted farmers to realize planting targets of 2,345.32 hectares for upland rice and 2,069.7 hectares for cassava across the four counties in FY14.

### **Lessons learned**

#### ***a. Partnerships with other organizations***

In FY14, agreements between UNICEF, AYP and FED did not clearly define roles, responsibilities and resource contributions toward establishment of the school garden programs and the national volunteers program. FED assumed that AYP/UNICEF would provide the inputs since the MoU stated only that FED will train the volunteers and provide technical support. On the other hand, AYP and UNICEF were expecting FED to also provide the tools and inputs. As a result, there were delays in the timely delivery of inputs to the school garden programs under AYP. Moving forward, these details should be categorically defined in the MoU to avoid confusion and subsequent delays.

#### ***b. Sustainability of school garden programs***

It has been difficult to determine the impact of school garden programs and special projects. The programs and projects are too small and school administrations have not been consistent in their effort to develop, and much less manage, their school gardens. While some schools have fully taken up the school garden program management, the sustainability of the projects beyond FED support remains to be seen. Thus, the project should continue to support the schools in their efforts to carry on these programs beyond FED support.

## **Task 4.3: NUTRITION**

### **Principal objectives for FY14**

In FY14, USAID FED's principal objective concerning nutrition was to ensure nutrition messages were included in all training interventions with direct beneficiaries, as well as to ramp up nutrition-messaging to rural households outside FED's zone of influence through radio programs. In addition to customizing messages such as those relating to diet diversification (to address stunting and anemia), Essential Nutrition

Messages (ENA) approved by the Ministry of Health and Social Works (MoHSW) will be disseminated through FED interventions.

## Major Accomplishments

During Q4 of FY14, FED's monitoring and evaluation unit conducted a survey to determine the number of beneficiaries who have received nutrition messages through FED's interventions. The survey showed that a total of 29,387 individuals (69.9 percent of FED's FY14 beneficiaries) received nutrition messaging either directly or indirectly.

The beneficiaries received nutrition messages as part of mainstreaming efforts through extension materials, extension services, training as well as through peer-to-peer interactions within the extensive networks of Lead Farmers and local NGOs. A poster highlighting the importance of nutrition to pregnant women and to children less than two years of age has been completed and presented to the MoA for review. It will be shared with the MoH once approved by the MoA. Radio jingles were developed, translated and aired in collaboration with four local radio stations to further disseminate nutrition messages to a wider population.

## Activity specific results

### Activity 4.3.1 Design Nutrition Printed Materials for Distribution:

In collaboration with USAID's Liberia Agriculture, Upgrading Nutrition and Child Health (LAUNCH) program, key ENA messages for agriculture were identified and an ENA facilitators guide for training agriculture extension officers was developed. A total of 1,235 beneficiaries (927 men, 308 women) received direct nutrition messaging during ToT workshops conducted across the four value chains. This included a ToT for 53 agriculture extension officers from MOA and FED from the four core counties. Fifty copies of training pamphlets and 50 copies of booklet of key ENA messages were printed and distributed to the trained extension officers.

Table 21: Beneficiaries who received direct nutrition messaging during TOTs in FY14

TOT	Value Chain/ Thematic Area	Beneficiaries/ Participants	No of participants who attended training			Location	Training date
			Male	Female	Total		
Mainstreaming Nutrition training	Rice, Cassava, Horticulture, Goats	FED , MOA Extension Officers	48	5	53	Bong, Nimba, Lofa, Grand Bassa	06 - 17 Jan. 2014
Rice Production and Best Practices training	Rice	Lead farmers	67	8	75	Nimba	30 Jan, 2014
Rice Production and Best Practices training	Rice	Lead farmers	50	2	52	Bong	12 Feb, 2014

Improved Water Management Infrastructures training	Rice	Lead farmers	40	14	54	Bong	25 Feb, 2014
VSLA Methodology training	Component 2 (Access to Finance)	CFOs	18	2	20	Bong	26 Feb, 2014
Rice Production and Best Practices training	Rice	Lead farmers (Lowland)	33	1	34	Lofa	04 March, 2014
Goat Production and Herb Management training	Goat	Lead farmers	17	2	19	Lofa	05 March, 2014
Rice Production and Best Practices training	Rice	Lead farmers (Upland)	41	8	49	Lofa	10 March, 2014
Goat Production and Herb Management training	Goat	Lead farmers	22	0	22	Bong	19 March, 2014
Goat Production and Herb Management training	Goat	Lead farmers	9	0	9	Grand Bassa	20 March, 2014
Local Youth Agriculture NGOs training	Youth	Youth LINGOs	32	4	36	Bong	10 April, 2014
Rice Seed Producers training	Rice	Lead farmers (Lowland & Upland)	27	6	33	Bong	28 May, 2014
Commercial Cassava Nursery training	Cassava	Lead farmers	33	7	40	Bong	29 May, 2014
Women Leadership and Business Incubation training	Component 2 (Gender)	Women leaders of Rice, Cassava and Horticulture	0	23	23	Bong	30 May, 2014



Business Management Coaching	Horticulture	All Horticulture farmers in clusters	54	49	103	Montserrado	19-20 June, 2014
Business Management Coaching	Horticulture	All Horticulture farmers in clusters	100	44	144	Margibi	8-9 July, 2014
Business Management Coaching	Horticulture	All Horticulture farmers in clusters	50	24	74	Nimba	10-11 July 2014
Integrated Pest Management training	Horticulture	EOs, LFs & MoA representatives	27	3	30	Margibi	17 July, 2014
Salt/Mineral Lick Fabrication training	Goat	Cattle chairman	33	7	40	Lofa	22 July, 2014
Salt/Mineral Lick Fabrication training	Goat	Cattle chairman	11	1	12	Grand Bassa	22 July, 2014
Salt/Mineral Lick Fabrication training	Goat	Cattle chairman	45	0	45	Bong	24 July, 2014
Salt/Mineral Lick Fabrication training	Goat	Cattle chairman	45	5	50	Nimba	24 July, 2014
ENA Nutrition Messaging training	Component 2	Chairladies of VSLA groups	15	85	100	Nimba, Bong, Margibi, Grand Bassa	21-29 Aug, 2014
Urea Deep Placement (UDP) training	Rice	Lead farmers	38	2	40	Nimba, Bong	10 Sept, 2014
UDP-SRI training	Rice	Lead farmers	6	3	9	Nimba, Bong, Margibi, Grand Bassa	24 Sept, 2014
Youth Power Tiller training	Rice	LFs & Youths	66	3	69	Nimba, Bong, Margibi, Grand Bassa	25 Sept, 2014

<b>TOTAL</b>			<b>927</b>	<b>308</b>	<b>1,235</b>		
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In collaboration with the extension unit, a video, “Healthy Foods for Pregnant Women and Children”, was developed as a visual reinforcement of messages carried on posters and other presentations disseminated during trainings events. A nutrition poster was also developed in consultations with the MoA and MoHSW and currently pending final approval. This poster will be printed and distributed to at least 2,000 beneficiaries during Q1 of FY15.

#### **Activity 4.3.2 Develop and broadcast nutrition jingles on radio:**

Four nutrition jingles were developed in simple Liberian English to promote dietary diversification for pregnant women, infant and young child feeding (IYCF). The jingles were further translated into two local dialects (Kpelleh and Bassa) and aired in Grand Bassa and Bong counties on local radio stations that are in partnership with FED.

#### **Activity 4.3.3 Develop and disseminate nutrition messages for CAHWs:**

A total of 206 Community Animal Health Workers (all women) under the goat value chain received nutrition messaging through ToT training. These CAHWs disseminated nutrition messages particularly on proper nutrition for women and children and dietary diversity to households within the 84 goat intensification production sites established in FY14.

### **Major challenges and lessons learned**

One of FED’s major objectives is to improve human nutrition. FED is doing this by increasing the availability and access to more nutritious food. However, utilization of more nutritious food is influenced by traditional diets. In Liberia, the diet is traditionally high in carbohydrates, low in protein and vitamin-rich food. In order to effectively improve human nutrition, people’s food intake needs to change toward more diverse diets centered on increased protein and vitamin-rich food.

While FED was able to reach 70 percent of its beneficiaries with nutrition messages, the actual impact of these messages on improving nutrition of these beneficiaries is yet to be determined.

The Government of Liberia’s National Nutrition Coordination Committee (NCC) and the MoHSW’s Nutrition and National Health Promotion Division developed a National Behavior-Change Communication Implementation Plan 2012-2014 in collaboration with UNICEF and the European Union. This 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 had been approved by the MoHSW, the National Behavior-Change Communication Implementation Plan was not fully implemented by the MoHSW due to lack of funds.

FED fully agrees with the need for a Behavior Change-Communication strategy to effectively influence food consumption patterns in Liberia. The ENA messages are generic recommendations. They are not sufficiently crafted toward changing traditional consumption patterns that hinder improved nutrition.

The coordination of nutrition messaging by MoHSW in terms of approval of project-specific messages by development partners has been hampered by time constraint due to competing priorities at the MoHSW. The Ebola crisis has further monopolized the attention of MoHSW and other development partners. As a result, a common agenda to tackle nutrition challenges and behavior change has slid down on their list of priorities. For example, due to the restrictions of movement, the recruitment of a Behavior Change

Communication Specialist to carry out a study on consumption patterns and determine factors influencing these consumption patterns has been delayed.

USAID FED will have to continue to carry out the study on consumption patterns and the development of a behavior change communications strategy in FY15.

#### **Task 4.4: Partnerships**

In FY14, USAID FED continued to work closely with main government partners: MoA, CARI, and MoCI. In addition, FED started to collaborate with the Ministry of Finance (MoF) on the duty-free waiver for agricultural inputs, the Ministry of Health and Social Works (MoHSW) on improved nutrition, Ministry of Gender on gender mainstreaming, Ministry of Education (MoE) and the National Commission on Higher Education (NCHE) on the National Diploma in Agriculture, and the Ministry of Youth and Sports (MoYS) on the Back to School Garden Program.

FED also continued to partner and coordinate with other USAID-funded projects, other donors programs and international NGOs working in food security and agriculture development in Liberia.

#### **CHEVRON**

During FY12 and FY13, FED partnered with Chevron in assisting a group of farmers, New Generational Women (NGW), in its effort to develop itself into a cassava production and processing enterprise. During FY14, FED submitted two proposals to Chevron to develop Global Development Alliances (GDA). The first proposal was to double the reach of the commercialization of high-value vegetable production and cold storage. The second proposal was to develop community kitchen incubators at the Centers of Excellence. Unfortunately, Chevron was only willing to allocate US\$100,000 for the high-value vegetable proposal. The amount was less than the 50 percent contribution requirement for a GDA to qualify. As a result, FED did not move forward with a partnership for FY14.

#### **United States African Development Fund (USADF)**

During FY14, FED continued to collaborate with the United States Africa Development Fund (USADF) by recommending farmers groups in need of capital for expanding their agri-businesses, mostly in cassava and rice farming and processing. The grants typically cover up to US\$50,000 for capacity-building, equipment purchase, and operating expenses. FED provided lists of potential farmers groups to USADF for review and helped these farmers groups navigate the grant application process. Through FY14, five groups have been awarded cumulatively US\$340,000 in funding from the organization.

In addition, FED worked closely with USADF management to analyze the profitability and sustainability of expanding the agriculture loan pool of the micro finance Institution, the Liberia Entrepreneurial and Asset Development (LEAD). As a result of the analysis and the success of a pilot program which lent US\$36,000 to FED farmers, LEAD was approved for a new grant in the amount of US\$245,000 (US\$8,000 for bank fees and US\$237,000 for on-lending).

In FY15, FED will work with USADF in monitoring and mentoring LEAD's implementation of the additional grant of US\$237,000 for on-lending to the agriculture sector. The new grant will enable LEAD to expand operations to Lofa County and to give loans to an additional 3,000 farmers every year. The partnership will result in a tripartite MoU between FED, LEAD, and USADF.

#### **Investing for Business Expansion (IBEX)**

In the beginning of FY14, FED signed a MoU with another USAID-funded project, Investing for Business Expansion (IBEX), to provide-record keeping and business training for loan-qualified farmers who intend to apply for loans from local micro finance institutions and banks. Together with IBEX, FED created

customized curriculum in understanding value chain financing, investing in agri-business, requirements and strategies for applying for formal financing, basic record-keeping, and options for expansion for FED-sponsored Village Savings and Loan Associations (VSLAs). Upon completion of their first year of saving and lending (i.e., graduation), the VSLA groups are eligible to receive loans from the Central Bank and may be eligible to apply for loans from conventional banks such as Ecobank and the International Bank of Liberia. By year-end, six VSLA groups successfully applied and were pre-qualified for loans from the Central Bank.

### **West Africa Agriculture Production Program (WAAPP), West Africa Fertilizer Project (WAFP), and West Africa Seed Project (WASP), Permanent Interstates Committee for Drought Control in the Sahel (CILSS)**

During FY14, FED partnered with 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 partnerships were meant to establish national seed, pesticide and fertilizer laws and regulations, which will facilitate implementation of improved seed and agro-chemical inputs in Liberia. The partners collaborated to organize an ECOWAS-led task force with the Minister of Agriculture to discuss the regional coordination process for these policies. As a result of the visit, the three ECOWAS regulations were officially published in the National Gazette on July 16, thereby becoming part of Liberian laws.

The task force also developed an action plan and timeline to begin the process of implementing all three regulations, including the establishment of the National Regulatory Body to oversee the implementation. In FY15, FED will continue to work with WAAPP representatives to form a technical working group to make sure the process continues to move forward.

### **ZOA**

USAID FED and ZOA shared in the cost of carrying out a cassava market study. This study provided in-depth information on the existing and potential markets for cassava products and by-products at the domestic, regional and international levels. The findings were very helpful in guiding stakeholders in make production plans and investment decisions. It also presents several enterprise models that micro-processing enterprises in cassava may adopt in order to improve their profitability. The survey was conducted in nine counties, including the six counties where FED operates.

### **Advancing Youth Program/UNICEF**

During FY14 FED partnered with the United Nations International Children Fund (UNICEF) and USAID's Advancing Youth Program (AYP) in training farmers and youth groups who lack technical knowledge in agriculture, and in increasing the participation of young people in the agriculture sector. During the collaboration, UNICEF recruited 28 graduates with degrees in agriculture and forestry as National Volunteers (NVs). The NVs facilitated classroom teachings and delivery of practical learning through school gardens in selected schools in the FED counties of Bong, Grand Bassa, Lofa, Nimba, and Montserrado. FED managed the National Volunteers (NVs), providing technical and in-service ToT trainings in the four value chains.

### **LAUNCH**

FED collaborated with LAUNCH in developing an Essential Nutrition Action (ENA) facilitator's guide for training agriculture extension officers, and identified key ENA messages for agriculture. The draft of the ENA facilitator guide was submitted to the Ministry of Agriculture for inputs and approval. LAUNCH also

provided ebola prevention training to FED field staff from Bong, Nimba, Lofa and Grand Bassa so that they could include this information in their training programs.

### **USDA/LAND O' LAKES (Food for Progress)**

The FED-LOL collaboration is geared toward re-stocking the goat herds through the introduction of imported dwarf goats that are trypanosome-tolerant. LOL is responsible for the importation while FED supported the establishment of a quarantine facility at CARI for these imported goats. FED also helped in the distribution of the goats. The goats distributed to FED-supported farmers were meant to improve the local goat stocks in terms of size, disease resistance and general productivity.

### **USAID-Liberia Energy Sector Support Project (LESSP)**

FED and LESSP agree to cooperate and work together to promote the use of renewable energy (RE) in support of commercial rice milling at the FABRAR Liberia Inc. rice milling agribusiness located in Kakata. Under the collaboration FED was to procure the renewable energy equipment with LESSP technical guidance and facilitated Liberia Environmental permit for the renewable energy plant. LESSP provided detailed site inspection, conceptual design and cost estimate on providing RE to FABRAR Rice in support of their business expansion.

### **Engineering Services for Rural Road Rehabilitation (ES3R)**

USAID FED and ES3R worked closely together in identifying the farm-to-market roads that are being built under Liberia's Farm to Market Rural Roads (F2MRR) project. All these roads are located close to areas where there is a concentration of USAID FED beneficiaries.

### **PROSPER**

USAID FED collaborated with People, Rules and Organizations Supporting the Protection of Ecosystem Resources (PROSPER) through inclusion of PROSPER beneficiaries in FED's activities in geographic areas where both projects operate.

### **World Food Program (WFP)**

USAID FED coordinated with World Food Program in implementing programming, particularly in the rice value chain. WFP participated in all FED-initiated policy forums. Likewise, USAID FED participated in meetings that were called by WFP. Following WFP's announcement of conducting food distribution in those Counties most affected by ebola, USAID FED successfully lobbied WFP to purchase domestically produced rice from Fabrar Liberia as opposed to satisfying all of their rice needs through importation.

### **BRAC**

USAID FED and BRAC continued to collaborate in the provision of health services in the goat value chain.

### **L-MEP (Liberia Monitoring and Evaluation Project)**

USAID FED is working closely with the L-MEP in data quality assurance (DQA).

## **Task 4.5: ENVIRONMENTAL COMPLIANCE**

### **Background**

Environmental compliance is a cross-cutting activity designed to mitigate the impact of FED's activities. The activity supports the four value chains, provides technical assistance on project environmental management and oversight responsibility for the implementation of the Environmental Monitoring and Mitigation Plan (EMMP).

## **Rice**

In FY14, USAID FED worked with LESSP to obtain clarity on the legal requirements needed to procure and operate a biomass generator for rice processor Fabrar Liberia.

USAID FED obtained from the Environment Protection Agency of Liberia (EPAL) a list of accredited firms for processing of permits for any entity intending to construct and operate a processing center as well as power-generation business. It was clarified that Fabrar should obtain the permit, but USAID FED will provide funding support for the hiring of a consultant firm for the processing of the permit. In the meantime, USAID FED will prepare an amendment to its IEE in compliance with USAID's regulations.

An environmental consultancy was hired by USAID FED to conduct the Environmental Impact Assessment (EIA) for the installation of a biomass power generator. The EIA has been submitted to EPAL, but the installation of the biomass generator will take place only after the EPAL has carried out verification of the site. Payment of the permit fees will be made after the site verification. The permit will then be issued and immediate installation of the power generators and operation can begin. Five rice water-management sites were visited during this period. Several other rice sites were visited in Nimba, Bong, Grand Bassa, and Lofa counties to ensure activities across the four value chains are conducted in accordance with government and USAID environmental guidelines. The project remains resolved on the Regulation 216 requirement, and will make sure that no un-degraded lowland or uplands landscape is introduced in the USAID FED project.

## **Cassava**

Several cassava sites were visited across the four counties to make sure that environmental best practices are applied in pest control, soil erosion, and planting methods based on site location. The compliance of integrated pest management is high upon the program's priorities.

## **Vegetables**

USAID FED reviewed the agro-chemicals recommended by STTA Cold Chain Specialist, Emmanuel Owusu, to determine whether the recommended chemicals were appropriate under the existing USAID FED Pesticide Evaluation Report and Safer Use Action Plan (PERSUAP). The review shows that some of the agro-chemical products contain active ingredients likely to be approved in an updated PERSUAP, as well as products that would not be approved for use by USAID. USAID FED is working on the next steps to allow USAID FED beneficiaries access to additional chemicals for control of major pests and diseases in vegetables.

## **Goats**

Several goat shelters were monitored to ensure compliance with the EMMP. Routine monitoring took into consideration the location/construction of new goat shelters, waste management system, availability of safe drinking water, and other best management practices across the four counties. All sites visited so far have their goats de-wormed, have water wells and hand pumps constructed, and goat manure collected and sold to vegetable farmers as fertilizers. The goat shelters are cleaned regularly to reduce flies and odors.

## **Environmental Trainings**

An environmental information session was held in Monrovia at the main office. This training was part of quarterly information session to educate project staff on key environmental issues across the four value chains. Topics discussed included use of fertilizers, soil management, water management, and other best practices. FED Technical Leads, Extension Officers and M&E staff participated in the training.

## **Major Accomplishments**



- All approved activities requiring environmental compliance have been printed out and documented in all four counties
- All environmental activities carried out in the field have been updated and documented at the county level
- The Environmental Impact Assessment (EIA) for the installation of biomass power generators at the Fabrar rice mill has been submitted to the EPA. The permit will be issued upon the payment of the permit fees. FED will pay the \$500 as part of its support to Fabrar Liberia as well as support to the promotion of alternative renewable energy source.

### **Constraints and Lessons Learned**

There has been no approved environmental monitoring checklist for monitoring of ongoing activities across the four value chains. The approved checklist is only applicable for citing new farm lands. This of course creates a bottleneck for updating environmental activities at the county level. Translating environmental compliance practices at the field level requires improvement, especially for extension officers. Extension officers need to better document all their activities, including the environmental checklist that will be used on a daily basis at the field level. The program needs to increase environmental monitoring across the four value chains to make sure that compliance is strictly adhered to while conducting activities.

### **Recommendations for FY15**

The program should develop a checklist for environmental monitoring of ongoing activities across the four value chains. This will help extension and M&E officers in updating the environmental files at the county level. Extension officers should have more training in environmental awareness, making sure that integrated pest control and soil fertility management are discussed. Environmental awareness can be enhanced through regular compliance monitoring across the four value chains.

## **Task 4.6: Monitoring and Evaluation**

### **Principal Objective for FY14**

The principal objective centered on the establishment and support of a FED M&E system in the four main counties and, at the activity monitoring level. This support will not only improve the quality of data collected, but will increase technical capacity of field staff and activities managers.

A second principal objective is to provide M&E technical assistance to the local NGOs and local staff members not working directly for FED (e.g., enumerators), train them how to do field data collection at the county levels. This will help improve not only their capacity in M&E tools but also help FED to reduce errors in the process of data collection.

### **Activity Specific Results**

#### **Activity 4.6.1 M&E in the field**

USAID FED has successfully mainstreamed the M&E function into the SOW of Extension Officers. M&E systems have been established within each FED county office, and are continually being upgraded and revised as 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 4.6.2 M&E Reporting**

Reporting templates for bi-weekly and quarterly reports have been developed, providing an assurance that data and reports are submitted on a timely basis. M&E will assure that outcome and impact reports from the field and from technical leads are randomly verified.

In Q3, USAID FED started revising the Performance Management Plan to reflect new indicators, reporting frequencies, indicator definitions and data collection methods.

USAID FED proposes to drop Feed the Future Monitoring System (FTFMS) indicator 4.5.2(29): Value of Agricultural and Rural Loans. This indicator strictly counts only formal financing. Based on FED's and IBEX's assessment, MSMEs in agriculture in Liberia are generally not ready for formal financing. FED's focus is to provide access to financing for FED beneficiaries in ways beyond formal financing in order to effectively help them grow their businesses.

In this light, to better reflect this effort, FED proposes to add FTFMS indicator 4.5.2 (30): Number of MSMEs, including farmers receiving assistance in accessing loans. Additionally, FED also plans to track the total amount of financing (cash and in-kind) accessed by farmers and agri-businesses through formal, informal, and embedded services as a result of USG assistance. This is one of the new custom indicators of FED.

USAID FED pursues activities in several fronts. The outcomes of some of these activities are not taken into consideration in the present set of indicators. FED would like to, therefore, propose the addition of the following indicators:

Percentage reduction in Post-Harvest Losses (for rice, cassava and vegetables)  
Number of households with improved diet diversity as a result of USG assistance  
Number of farmers and others with access to improved planting material

The above changes will be proposed in the revised Performance Management Plan that will be finalized in January 2015.

#### **Activity 4.6.3 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. The M&E team assisted the activity managers in making sure that all activities contribute to FED's indicator targets.

To enhance the capacity of USAID FED staff in planning their activities, the M&E team of FED carried out the Results-Based Management for Value Chains Monitoring and Reporting training for 18 staff members of FED. This training was designed to help value chain and activity leads to better plan, implement and report their program activities in FY15 and FY16. At the end of the training, component, leads and other staff members clearly understood strategic management view that will address the need to establish a results-oriented and accountability-driven mode of operation. The training, which was done in Q3 of FY14, was timely in helping the FED leadership prepare for the work plan for FY15.

#### **Data recording devices (PDAs)**

FED purchased an additional 30 PDA devices, bringing the total to 50. Ten devices will be assigned to each of the four major counties and 10 devices will be held in Monrovia. The PDAs will be used to determine the actual area for reporting during the different production stages.

## Task 4.7: Communications/Knowledge Management

### Communications

USAID FED published eight press releases in FY14 and was featured in print, broadcast and online media, both international and local, at least 100 times (Table 20).

Table 22: USAID FED in the news in FY14.

<b>USAID FED News</b>	<b>Newspapers</b>	<b>Online News Outlets</b>	<b>Radio and Other Media</b>
CARI Livestock Facility Inauguration (April)	3	3	3
National Diploma in Agriculture	5	4	-
Rice Seed Inspector Training	4	2	1
Fabrar Liberia makes Historic Rice Purchase in Lofa County	7	10+	-
New Policy Group to Improve Business Enabling Environment for Agriculture Sector	4	4	-
Local Procurement Law to Benefit Liberian Rice Farmers (released at the end of April)	3	3	-
Youth in Agriculture (MoCI)	2	-	-
Rural Radio Partnership	1	-	4
Microfinance Loan for United Farmers Association	-	1	-
FED/LEAD Loans: 96 percent Payback and 2 <sup>nd</sup> Round of Loan	7	10+	1
Nimba County Rice Hub	1	1	-
School Gardens Initiative	2	-	-
More Transformation Expected at CARI As Stakeholders Validate Strategic Plan	1		
IBEX, FED Trained Village Saving Loan Members	1		
Lofa Farmers Take Step Toward Mechanized Farming	1		
USAID FED Completes Leadership Training for 20 Women Farmers in Buchanan	1		
Improved Irrigation Encourages Upland Farmers to try Lowland Farming	1		
Food Processing Gives Single Mothers, Teenage Girls Support System	1		
MoCI Endorses 25% Local Procurement Act	4		
Youth Leader Reaches More Liberians with Agriculture Programs	1		
USAID FED Ends Five Days Training for Farmers (Power Tiller training)	1		

Miscellaneous	5	-	-
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*\*Miscellaneous includes press stories about CARI's quarantine facility, goat farmers sourcing local wood, cassava nurseries among others.*

## USAID FED Information Materials

USAID FED produced 2,000 value chain postcards representing the four USAID FED value chains. The value chain postcards provide information about USAID FED on the back along with photographs. The value postcards were displayed at the MoCI MSME Conference in April 2014.

USAID FED produced 100 24"x36" infographic posters that presented a detailed overview of USAID FED's food-based value chains from production to markets that included farmers, logistics, input suppliers and traders. The infographic posters were displayed at the MoCI MSME Conference in April 2014.

## Success Stories inFYI4

USAID approved 16 success stories in FYI4. The success stories approved in August are attached.

- 1) Community Radio Stations Improves Interaction with Rural Farmers
- 2) Farmer Turns Vegetables into Big Business
- 3) Back to School Farming Leads Students Back To The Soil and into the Classroom
- 4) Goat Farmers Use Team Work and Innovation to Grow and Improve Sales
- 5) Back to School Farming Leads Students Back to the Soil and Into the Classroom
- 6) Effective Fertilizer Application Method Improves Rice Yields
- 7) Small Amounts of Financing Earn Big Rewards for Vegetable Farmers
- 8) Vegetable Farmers Strike a Deal
- 9) Micro financing Helps Women Expand Farms and Increase Sales
- 10) Goat Market Day Unites Farmers and Traders
- 11) Food Processing Gives Single Mothers and Outcasts a Support System
- 12) Vegetable Farming Revolutionizes Low-Cost Village
- 13) Improved Irrigation Persuades Farmers from Upland to Lowland Rice Production
- 14) Goat Farmers Harness Local Resources
- 15) Leadership Program Gives Rural Women a Chance to Grow
- 16) Profitable Village savings and Loan Permits Members to Improve Crop Production

## UNMIL Radio Partnership

In Q3, USAID FED reached a verbal agreement with UNMIL Radio to produce a farmer-focused radio program with the intent to broadcast useful information to Liberian farmers. UNMIL Radio covers all of Liberia, and the agriculture radio program is transmitted once a week from 5:00 to 5:30 a.m. Under this agreement, USAID FED will produce two 30-minute programs each month. Programming will include food crop prices as well as information on agriculture best practices. The program will also feature USAID FED partners who might like to send useful messages to Liberian farmers.



Figure 56: USAID FED Staff members and Allen Gweh from LEAD were invited to a Radio Veritas talk show.

In July, USAID FED finished the pilot program for On-the-Farm, a 30 minute radio show that will be featured once a week on UNMIL radio. The first program discussed lowland rice planting and irrigation, the National Diploma in Agriculture curriculum and storage issues at Red Light market. USAID FED does not know when the program will be aired due to the Ebola outbreak.

### Knowledge Management

USAID FED requires STTA findings on special studies to be submitted to USAID for approval and then uploaded to USAID's Development Experience Clearinghouse (DEC) once approved. FED also organized eight knowledge-sharing events, where findings and recommendations of STTAs were shared with partners and other stakeholders (Table 22).

Component 3 STTAs also convened knowledge-sharing events at the CoEs on topics ranging from instructional to demonstration farm development. USAID FED convened a Policy Dialogue for GoL Ministers and key players in the rice industry to showcase USAID FED STTA Eric Wailes' rice policy assessment findings.

Table 23: Knowledge sharing events in FY14

<b>Value Chain/Component</b>	<b>Event</b>	<b>STTA</b>
Component 1	Analysis of Post-Harvest Activities and Improvement of Cooling Systems in Vegetable Value Chain	Emmanuel, Owusu
Component 1	Seed Certification Protocol with CARI	Josiah Wobil
Component 1	Improving Rice Production Using Urea Deep Placement Technology	Upendra Singh
Component 1	Rice Production: Observations and Deliverables of Bong and Nimba County: Improving Rice Production Using Urea Deep Placement (UDP)	Dr. Pandian Balamurugan
Component 1	Training on Soil Testing for Fertilizer Recommendations Using the HACH-SIW Kits	Dr. Sampson Agyin, Birikorang
Component 2	Policy Environment Assessment for Liberia's Rice Value Chain	D. Eric Wailes
Component 3	Capacity Building at CoE	Dr. Bradley Leger
Component 3	Capacity Building at CoE	Dr. Don Breazeale

## COMPONENT FIVE: MANAGEMENT AND OPERATIONS

### Human Resources

#### Principal Objectives FY15

- Provide continuous support to the technical team and project staff in Monrovia
- Focus on helping the local staff to better understand and appreciate the HR processes, including the annual review /goal-setting process
- Identify relevant capacity-building opportunities for staff when educational institutions reopen, and identify online learning opportunities for those who may be unable to physically attend educational institutions of learning
- Revise SOWs for both local and expatriate staff in support of efforts to broaden responsibilities given limited resources and FED's current needs.

In FY14, one training activity was conducted in the Monrovia office on hiring ICAs and writing scopes of work.

#### Milestones in FY14

During the period under review, the HR office accomplished the following:

- Short Term Intermittent Hires – 10
- ICA Contractors Recruited - 182
- LTTA Staff Recruited – 22
- Six FED staff received promotions

In order to facilitate delivery of support to program implementation in the counties, procurement was decentralized to the County Administrative/Logistics Assistants, who were trained on procurement procedures and USAID rules and regulations. In order to scale up production, four Administrative/Logistics Assistants were promoted as Administrative and Procurement Officers.

Eric Yeasu, former Rice Enterprise Development Officer, was also promoted to Rice Value Chain Manager replacing Patrick Farnga, who moved to the position of Irrigation Specialist to focus on USAID FED's initiative to develop improved irrigation infrastructure.

In the HR Unit, Jamesetta Kemah was promoted to Office/Administrative Assistant II in recognition of her diligence as HR Assistant and her willingness to take on additional tasks with efficiency, especially during the periods when the HR/Office Manager was absent.

In FY14, six staff members left the program. Three left for educational opportunities, two pursued job opportunities elsewhere and one for non-performance of his duties at the end of his probationary period.

In the program's efforts to improve efficiency, the HR unit took on the responsibility of processing the monthly payroll and overtime pays for the staff. This activity has been carried out successfully since August 2014.

#### Challenges

The challenge to hire competent professionals was exacerbated in FY14 by the Ebola outbreak, which resulted in the departure of many qualified professional candidates in an already highly competitive



market for professional skills. Compounding this challenge is the difficulty to find qualified women for many of the county-based positions, because the few qualified females that are living in Liberia are not willing to live in the counties.

## Information Communication Technology (ICT)

### Principal Objectives for FY15

- Switch from VSAT to fiber connections for all of FED's county offices
- Change from D-Link Access point to Cisco for complete network reliability for both Monrovia and field offices because D-Link Access points continue to freeze and create unwanted downtime
- Continue to provide IT support for all FED staff
- Purchase the following equipment for efficiency: 10 laptops, four desktops, six Cisco Access points, two projectors
- Order replacements for the Eaton 3k UPS along with the backup batteries for the main office, two printers for the Monrovia office, and two printers in Lofa and Nimba
- Purchase a higher volume of tape drives, preferably 1.5 TB for DATA backup purposes and an additional 2M bandwidth to make up the 6M needed to support the increase in users on the network

### Achievements in FY14

- Effective management and maintenance of the information technology set-up and infrastructure of the program
- Successful upgrade of FED Internet connectivity from the use of VSAT to fiber connections at the Monrovia office
- Training of staff in the basic use of ICT applications and equipment
- Building of the network infrastructure at the Centers of Excellence

### Challenges

The IT unit has not been able to shift the field offices to fiber optic as planned due to the vendor's inability to have such a technology outside Monrovia. The program also faces the challenge of constant breakdown of printers due to wear and tear. Some printers will have to be replaced.

## Procurement, Operations, and Finance

### Principal Objectives for FY15

#### Operations

- More frequent dissemination of information as a means of getting staff to be more proficient and efficient in completing tasks
- Promotion and enhancement of competitiveness and transparency in selecting potential vendors in line with DAI and USAID procurement procedures and guidelines
- Efficient procurement of goods and services in support of rapid project implementation and scaling-up of activities
- Execution of the Blanket Purchase Agreement (BPA) for all recurring local procurements to improve efficiency

#### Finance and Procurement

- Hold monthly and quarterly field visits to county offices to ensure the operations and procurement policies and procedures are followed

- Update procurement data in the Technical Administrative Management Information System (TAMIS), ensuring that the purchase order process is completed and vendors are paid for services rendered
- Update suppliers' banking details to maximize utilization of online payment
- Arrange for electronic transfer of cash to the counties for more efficient cash management
- Execute bi-weekly submission of field cash reports to record expenditures in a timely fashion
- Conduct continuing education for Finance Team
- Hire one staff for budget and financial analysis

#### **Achievements in FY14**

- The timely procurement of spare parts and maintenance services for project vehicles
- Timely procurement of goods and services for operations
- The establishment of successful business relationships between FED and suppliers/service providers
- Use of fuel cards (TOM Cards) by TOTAL Liberia to purchase petroleum products to reduce cash exposure among project staff. This also improves efficiency measures in fleet management
- The arrangement for vehicle maintenance services to ensure that the vehicles were serviced regularly, along with security guard services and Internet services
- Renewal of insurance policy for all vehicles, and the registration of all vehicles for 2014-2015 in compliance with Traffic and Motor Vehicles Law of the Republic of Liberia
- The purchase of 22 motorcycles for the operations of the project, one Nissan pickup and two Toyota 4Runners for operations and MDF
- The successful transfer of title to MoA, BWI, NCCC, GBCCC, and radio stations
- The arrangement with Ecobank on online banking for payment to vendors and payroll
- The automation of the payroll system, so that monthly staff salaries are paid real-time through online payments
- Continuing support through advances and MDF funds to the technical teams to ensure that the project activities can be implemented in a timely manner
- Staff cash advances limited to program activities and travel advances paid online to minimize cash exposure
- Ongoing assurance of the availability of funds for the unhampered operation of project activities

#### **Challenges**

- Limited availability of suppliers/vendors for some needed goods and services
- Delinquency by some service providers/suppliers in delivering needed goods or services on time
- Vendors quoting for specifications of goods that were not in their stock
- Requisitions done by requestors with shorter-than-expected turnaround date for needed project goods and services
- Wear and tear of project vehicles due to poor road conditions.
- Difficulties in fleet management due to late vehicle requests
- Getting cash safely to the field offices in huge amounts for their monthly needs
- Difficulties with the county managers/administrative assistants clearing 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 FED
- Continuing education of National Finance Team to keep abreast with the required basic standards of field work

- The remote management due to Ebola outbreak: transmitting financial documents in huge file sizes takes too much time, and financial management is limited to the operation of processing, payment, and generation of reports.

## Management of the Market Development Fund (MDF)

### Overview

The Market Development Fund (MDF) is FED's instrument to combat the "give/get-things-free" approach in 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 FED achieve its objectives and intermediate results.

### MDF Eligibility and Procurement

The MDF continued to issue contracts on a competitive basis, following the issuance of Requests for Quotes (RFQs), Requests for Proposals (RFPs), Expressions of Interest (EOI), or Indefinite Quantity Contracts (IQC) for the specific procurement needs of approved MDF activities. The beneficiaries of these MDF activities, which were linked to FED's FY 2014 work plan targets, are chosen based on a full and open competition and justification process beginning in Q4 FY 2013. Each MDF activity defines 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 partnership, FED signs memorandums of understanding for each MDF activity that involves a final beneficiary.

### MDF Management

In FY14 the Fund was fully operational; the MDF Manual and MDF TAMIS Instruction Guide were completed and the TAMIS MDF system was updated and finalized in June 2013 under the current MDF Manager, Gwendolyn Armstrong. These systems and procedures created guidelines and a process that the FED technical staff adhered to upon implementation of the FY14 work plan.

In April 2014, DAI corporate sent a team of trainers out to Liberia to train all of FED's project staff on Field Procurement. This workshop lasted four days and involved the participation of FED technical, MDF, operations, and finance staff.

In FY14, the MDF department was composed of one MDF procurement specialist, two MDF procurement coordinators, and an MDF procurement assistant. Each FY14 work plan activity in TAMIS was given a specific MDF procurement staff member to oversee all procurements pertaining to that individual activity. This allowed the MDF procurement team to be fully integrated within the design framework of the FY14 work plan activity. If procurement needed to happen within one of FED's four counties, the Monrovia MDF staff would remotely help the county administrative officers. When a county procurement was rather large, the MDF Monrovia staff in charge of that activity would travel to the county to provide additional support to the county team.

The County Administrative Officers have been continuously trained by the MDF manager and the Monrovia MDF team throughout FY14. It has been a steep learning curve for these county officers. The capacity of the county administrative officers has been a major obstacle to overcome, as each county officer is at a different professional level. This capacity issue of the county team has been a major lesson learned for FY14; the county offices needed additional administrative support. The county administrative officer's tasks had become overwhelming for an individual person; splitting time between

regular office work, inventory management, county procurement, and financial duties of the county office. In Q4 of FY14, junior administrative officer recruitment began for each of the four county offices. The junior administrative officer position will allow for a defined separation of responsibilities and duties in the counties between county procurement and finances.

### **MDF Inventory and Non-Expendable Property**

In FY2014, a major emphasis of DAI home office was made on FED's management of MDF inventory management between the Monrovia office and the county offices. To ensure the proper distribution of MDF procured goods, it is essential to define and record the movement of goods from the moment the item is procured and delivered to FED to its eventual delivery to beneficiaries. In FY14 Q1, policies and procedures were developed for the movement of inventory around Liberia. The operations manager would manage these new procedures for FED.

MDF goods were procured just in time for delivery and implementation to greatest extent possible and MDF would receive all fully executed MOUs prior to purchasing any goods for an MDF activity. In this set-up, the county administrative officers of each county will report the inventory to the operations manager on a monthly basis to guarantee the proper delivery of goods to beneficiaries and ensure MDF activity implementation. The operations manager conducts a monthly analysis of the inventory movement and reports it to senior management.

One of the major lessons learned during FY2014 is the continued management and documentation of non-expendable property (NXP) in the field. Prior to FY2014, FED's 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 item 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.

In 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, all purchase orders of NXP items prior to full execution are subjected to reviews. Following the approval of 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 goods to the beneficiary, on a quarterly basis.

In FY14 Q4, DAI home office FED program associate, Michael Manansala, was scheduled to come to Liberia to oversee another training and audit of FED inventory, and to 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 FY2015. The training, audit and evaluation are needed and should be implemented as soon as STTAs are able to come back to Liberia.

### **MDF and FED Beneficiary MOUs**

The MDF department is the record-keeper of MOUs and MDFs, and is responsible for filing beneficiary MOUs and managing the MOU tracker. The MOU tracker tallies when beneficiary MOUs are

completed and fully executed by the FED county and technical teams. In FY14, it was necessary that all beneficiary MOUs include the following documents attached to have them considered as fully executed:

1. Brief justification why that beneficiary was chosen.
2. Group member list
3. Land agreement (when applicable)
4. Group contribution (when applicable)

In FY2014, nothing was procured for any MDF activity without the status of the fully executed beneficiary MOU updated within the MOU tracker.

### **MDF and Restricted Goods**

The MDF Manager oversees the restricted goods tracker of all MDF restricted commodities that have been procured to date, tracking items properly procured to current USAID approvals. The restricted goods tracker is updated following each purchase of a restricted commodity. The USAID approval documentation is then attached to all financial documentation prior to purchase order payment.

### **MDF FINANCES**

In Q1 and Q2 of FY14, the MDF manager completed the internal financial audit of FED's 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 FED Finance Department was not able to complete the actual corrections in FY14 Q3 or Q4 due to the transition from the previous DCOP/FAM to the current DCOP/FAM, Rebecca Javier. The task of financially correcting these 300-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 task will need to wait until after FED Finance is back to full capacity in FY2015.

On a monthly basis, the MDF manager reviews every line of the FED invoice submitted to USAID. As a result of this review, 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. This is done to ensure that FED is properly coding expenditure lines to the correct CLIN and line item from the contract. The MDF manager creates the monthly MDF financial analysis for submission to USAID in the FED 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.

### **Additional Lessons Learned and Recommendations for FY15**

- Public advertisement upcountry

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 the instance that 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 registrations to vendor 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 DAI home office to create a checklist of documents that vendors need to provide if they were to receive cash versus a check payment.

To the greatest extent possible, FED county teams would 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 the 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 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 up-country 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 just to make sure lack of initial funds will not 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 them in purchasing fuel to make the delivery of inputs to beneficiaries, and for independent consultants to assist them in meeting 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 FY2014. In April 2014, DAI home office sent out procurement trainers to train all of FED's 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 had become too demanding for one person. As a result, in Q3 of FY2014, 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 the 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 in Q2 of FY2014, the MDF manager began consolidating this financial analysis for review by the FED technical team. In Q3 of FY14, 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 around a weekly MDF expenditure breakdown of what exactly MDF activity expended that 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 of 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 critical and contribute more to FED's end-of-project goals.

All project staff had 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 have led to delays in procurement and extended period of performance of FY2014 work plan activities.

Another capacity constraint of local staff is their lack of follow -up and maintenance of activities in TAMIS – knowledge management, actual expenditure-tracking, close out and documentation of outcomes. In Q4 of FY14, an STTA for a Senior Project Management Advisor was planned to support FED Component Leads, Value Chain and Task Leads, and County Managers on project management skills and FY15 work plan 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 FED's local technical team and hopefully in FY2015, this STTA can come to Liberia to provide the training, coaching, and mentoring to USAID FED technical staff on project implementation and management.

- **MDF Manager / Deputy Manager**

The MDF manager's contract with FED ends on May 22, 2015. The project is beginning to search for a new MDF manager to help ensure a smooth transition as the current MDF manager leaves the project. Additionally, 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 applicants to the position during the first round (June 2014) and second round (September 2014) were underqualified. DAI's HR department has begun to recruit for a qualified, international candidate to fill this role.