

# FOOD AND ENTERPRISE DEVELOPMENT (FED) PROGRAM FOR LIBERIA

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**Photo Caption:** A youth entrepreneur operating a power tiller ploughs the soil for rice planting in Gbedin, Nimba County. USAID FED supported youth entrepreneurs by purchasing the plough through cost-share agreements. With FED's support, farmers in rural regions are able to become self-sustaining.

## **DISCLAIMER**

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

## Acronyms

AEDE	Agency for Economic Development and Empowerment
APDRA	Association Pisciculture et Development Rural en Afrique
AVTP	Accelerated Vocational Training Program
AYP	Advancing Youth Project
BSTVSE	Bureau of Science, Technical, Vocational and Special Education
BWI	Booker Washington Institute
CARI	Center of Agriculture Research Institute
CAHW	Community Animal Health Worker
CBF	County Based Facilitator
CILSS	Permanent Interstates Committee for Drought Control in the Sahel
CoE	Center of Excellence
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
FtF	Feed the Future
FGD	Focus Group Discussion
FUN	Farmer Union Network
GAP	Good Agriculture Practices
GBCC	Grand Bassa Community College
GCAP	Green Coast Agricultural Program
GDA	Global Development Alliance
GPS	Global Positioning Systems
IBEX	Investing in Business Expansion Liberia
IFDC	International Fertilizer Developmental Center
IITA	International Institute for Tropical Agriculture
IP	Implementing Partner
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
LIFE	Livelihood Improvement for Farming Enterprises
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
MoHSW	Ministry of Health and Social Welfare
MoP	Muriate of Potash
MoU	Memorandum of Understanding
MSME	Micro, Small and Medium Enterprise
NDA	National Diploma in Agriculture
NCCC	Nimba County Community College
NIC	National Investment Commission
PERSUAP	Pesticide Evaluation Report and Safer Use Action Plan
PIDS	Performance Indicator Database System
PMP	Performance Management Plan
PUA	Peri-Urban Agriculture
R&RF	Rights & Rice Foundation
RFTOP	Requests for Task Order Proposals
RRA	Rapid Rural Appraisal
TAMIS	Technical Administrative Management Information System
TSP	Triple Super-Phosphate
TVET	Technical, Vocational Education and Training
UDP	Urea Deep Placement
UL	University of Liberia
USADF	United States African Development Foundation
USAID	United States Agency for International Development
VET GOV	Veterinary Governance in Africa
WAAPP	West Africa Agriculture Productivity Program
WAFP	West Africa Fertilizer Project
WASP	West Africa Seed Project
WFP	World Food Program

## Table of Contents

<b>Acronyms.....</b>	<b>3</b>
<b>Table of Contents.....</b>	<b>5</b>
<b>Background.....</b>	<b>7</b>
<b>Executive Summary.....</b>	<b>8</b>
<b>Component One: Increase Agricultural Productivity and Profitability .....</b>	<b>11</b>
<b>Task 1A: Increased Productivity and Profitability of the Rice Value Chain .....</b>	<b>11</b>
<b>Task 1B: Increased Productivity and Profitability of the Cassava Value Chain.....</b>	<b>13</b>
<b>Task 1C: Increased Productivity and Profitability of the Horticulture Value Chain .....</b>	<b>15</b>
<b>Task 1D: Increased Productivity and Profitability of the Goat Value Chain .....</b>	<b>21</b>
<b>Sub Task 1.1 Special Studies and MoA Data Collection System Development.....</b>	<b>23</b>
<b>Sub Task 1.2 Improved access to Agricultural Inputs.....</b>	<b>25</b>
<b>Sub Task 1.3: Agricultural Extension Support.....</b>	<b>26</b>
<b>Subtask 1.4 Youth in Agribusiness.....</b>	<b>28</b>
<b>Component Two: Stimulate Private Sector Growth and Investment.....</b>	<b>31</b>
<b>Task 2: Policy Enabling Environment for Private Sector Growth.....</b>	<b>31</b>
<b>Sub Task 2.1 Access to Finance.....</b>	<b>32</b>
<b>Subtask 2.3: Women Participation in Agribusiness .....</b>	<b>33</b>
<b>Component Three: Building Local Technical &amp; Managerial Human Resource Capability....</b>	<b>35</b>
<b>Activity 3.1 Roll out the National Diploma in Agriculture in all Four CoEs.....</b>	<b>35</b>
<b>Activity 3.2 Promote Ag Progress Day to show case their agriculture products.....</b>	<b>38</b>
<b>Activity 3.4 Enhancing Availability of Textbooks and Reference Materials for the NDA....</b>	<b>38</b>
<b>Activity 3.5 Completing basic facilities needs to enhance learning.....</b>	<b>38</b>
<b>Activity 3.6 Promoting Learning by Doing in Partnership with Private Sector.....</b>	<b>39</b>
<b>Activity 3.7 Building the Capacity of CoEs to generate additional funding and to manage their finances .....</b>	<b>39</b>
<b>Activity 3.8 Continuing Support to Agro-Enterprises Established in FY14/15 .....</b>	<b>40</b>
<b>Component Four: Cross-Cutting Activities.....</b>	<b>41</b>
<b>Task 4.1: Communications and Knowledge Management.....</b>	<b>41</b>
<b>Task 4.2: Environmental Compliance .....</b>	<b>42</b>
<b>Component Five: Management and Operations.....</b>	<b>43</b>
<b>Task 5.0 Project Management and Administration.....</b>	<b>45</b>

## Table of Tables & Figures

<i>Figure 1: Double-cropped field in Foya, Lofa County .....</i>	<i>12</i>
<i>Figure 2: Drum Seeder in Doetain-ta community, Kpahi District .....</i>	<i>12</i>
<i>Figure 3: Newly constructed Rice Business Hub in Kenjallah and Mayor Farms, Lofa County .....</i>	<i>13</i>
<i>Figure 4: Cassava press being tested for defects by USAID FED's equipment technician at Wainsue, Bong County .....</i>	<i>14</i>
<i>Figure 5: Cassava micro-processors identified in Grand Bassa County .....</i>	<i>14</i>
<i>Figure 6: Vegetable harvests and sales by county, quarter and YTD FY16 .....</i>	<i>15</i>
<i>Figure 7: Sucking aphids on watermelon leaves .....</i>	<i>16</i>
<i>Figure 8: Okra with signs of African cotton bowl worm (Helicoverpa armigera) attack .....</i>	<i>16</i>
<i>Figure 9: Shangar F I okra variety (left) &amp; Tomato grown in a rain shelter (right), Careysberg production Cluster, Carysberg, Montserrado .....</i>	<i>16</i>
<i>Figure 10: Tomato grown in the RS, Mensah production center, Mount Barclay Monserrado.....</i>	<i>17</i>
<i>Figure 11: Cabbage grown in Careysburg RS, Careysburg, Montserrado .....</i>	<i>17</i>
<i>Figure 12: FED designed RS using local materials .....</i>	<i>18</i>
<i>Figure 13: Mensah farmers construct the expanded rain shelter .....</i>	<i>18</i>
<i>Figure 14: Mud brick structure that will be rehabilitated as a packing house, Marwah Cluster .....</i>	<i>19</i>
<i>Figure 15: Mr. Wael Hariz visiting FED-assisted vegetable farms .....</i>	<i>20</i>
<i>Figure 16: Volume and value of delivered vegetables to the US Embassy and Royal Grand Hotel .....</i>	<i>21</i>
<i>Figure 17: Hon Seklau Wiles, Deputy Minister for Administration .....</i>	<i>23</i>
<i>Figure 18: Seed rice available at Mayor Farmer's association .....</i>	<i>25</i>
<i>Figure 19: CARI technician conducting seed tests at their laboratory .....</i>	<i>25</i>
<i>Figure 20: Farmers operating the shredder machine in Mount Barclay, Montserrado County .....</i>	<i>26</i>
<i>Figure 21: Training of extension personnel on the use of extension materials and farmer guides .....</i>	<i>27</i>
<i>Figure 22: Goat value chain manager training extension officers use goat value chain materials .....</i>	<i>27</i>
<i>Figure 23: Lucy Davis, a member of Kaker agricultural development youth group, on a cabbage farm in Todee District, Montserrado County .....</i>	<i>28</i>
<i>Figure 24: Youth lead farmers receiving drip irrigation training in Japan's Town .....</i>	<i>28</i>
<i>Figure 25: Revenues generated from transport services.....</i>	<i>29</i>
<i>Figure 26: The table shows USAID FED-supported VSLAs that obtained central bank loans .....</i>	<i>33</i>
<i>Figure 27: USAID FED supported women-owned business incubation .....</i>	<i>34</i>
<i>Figure 28: NDA students launching National Diploma in Agriculture Students' Union (NDA-Su) at LCCC.....</i>	<i>35</i>
<i>Figure 29: NDA Year II Courses .....</i>	<i>36</i>
<i>Figure 30: Participants at the status and harmonization meeting of the NDA. ....</i>	<i>36</i>
<i>Figure 31: Participants pose for a group photo following the NDA status and harmonizing meeting at FED's Office.....</i>	<i>37</i>
<i>Figure 32: Figure 30: Science lab training at NCCC .....</i>	<i>37</i>
<i>Figure 33: Vamuyan Traore installing a FED-donated laboratory refrigerator at the Lofa County Community College. ....</i>	<i>38</i>
<i>Figure 34: Dr. Don Brazeale (middle) poses with Component Three Lead (far left) and farmers at the GBCC vegetables farm. ....</i>	<i>40</i>



## Background

The Food and Enterprise Development (FED) Activity is USAID's flagship Feed the Future (FtF) Initiative in Liberia. The project launched in September 2011. USAID FED uses an all-inclusive strategy incorporating micro, small and medium enterprises (MSMEs), farmers, processors, suppliers, women, and youth, while partnering with the Government of Liberia (GoL) and local civil society to achieve food security.

USAID FED is increasing food availability, access and utilization by building an indigenous incentive structure to assist 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; and
- Workforce development.

USAID FED works with the Ministry of Agriculture (MoA), civil society, and the private sector to provide communities with access to agricultural inputs, extension services, nutrition messages, processing services, market information, transportation, credit, agro-business education, training, and business development services.

As USAID FED enters its fifth and final year of operation, it is expanding market linkages designed to substantially increase incomes and job opportunities. USAID FED is also significantly boosting the production, processing, marketing and nutritional utilization of rice, cassava and vegetables, as well as enhancing the productivity of goat farming in the counties covered by the program.

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

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

USAID FED is implemented by a consortium led by Development Alternatives, Inc. (DAI), along with Winrock International, International Fertilizer Developmental Center (IFDC), Louisiana State University (LSU), and The Cadmus Group.

## Executive Summary

### A. Progress toward FY2016 and life-of-project targets

The previous FED quarterly and annual reports expressed considerable pride in the extent to which FY2015, FY2016 and life-of-project targets were being met. FED continues to be prideful of the scope and intensity of interventions that have taken place since project inception, particularly considering that value chains in Liberia were extremely undeveloped when implementation was initiated in 2011. In four short years, FED has developed commercial value chains for rice, cassava, horticulture and goats that, FED believes, will offer evidence of substantially-increased food security, incomes and quality of life for Liberians.

A comprehensive, internal data quality review (DQR) was conducted during this reporting period that was designed to determine the completeness and accuracy of the quantitative results previously reported by FED. This DQR was undertaken because both USAID and FED considered it critically important to demonstrate the highest levels of confidence in this information as evidence of the results received by the U.S. Government (USG) in return for its large investment in FED. The expectation was that the findings arising from this review would necessitate some adjustment to previously-reported information to more closely reflect actual results. Indeed, the most recent data quality assessment conducted in 2015 by USAID's monitoring and evaluation contractor concluded that, while some improvements to FED's data management systems were necessary, overall these systems appeared satisfactory.

The DQR, however, revealed serious deficiencies throughout the data management process, i.e., instrumentation, collection, collation, monitoring and quality checks, and how information was calculated and selected for reporting purposes. It concluded that much of the data reported previously by FED, particularly on the most critical outcome/impact indicators, is of poor quality and cannot be used for reporting or decision-making purposes.

DAI reported this situation to USAID immediately following the completion of the internal data quality review. Subsequent to a formal feedback session at USAID with FED's data quality consultant, a plan was developed under the Mission's leadership to re-capture information on the 18 FtF indicators in FED's performance management plan (PMP). The action plan is comprised of two main activities: (a) an impact assessment to be conducted under USAID's auspices that will address the eight most critical impact/outcome FtF indicators whose results FED's review determined to be of the poorest quality, as well as quality of life improvements such as asset accumulation, access to health care and education, etc.; and (b) a thorough review of existing FED project documentation to determine if reliable results can be extracted on the remaining 10 FtF indicators. The latter might also involve additional surveys to capture information found not to be available in the existing documentation. USAID will assume responsibility for the first activity without FED involvement to ensure objectivity, with FED assuming responsibility for the second activity. It is anticipated that both of these efforts will be initiated early during the next reporting period.



Considering the foregoing, any quantitative information contained in this quarterly report as well as in previous reports should be considered tentative until such time that the corrective actions described above are completed and verifiable information is available.

**B. Highlights of this reporting period include the following activities:**

Rice and Cassava Processing

- Ten rice business hubs were established with a total annual milling capacity of 7,800 MT. Nine more of these hubs are will be launched early in the next reporting period. These rice business hubs are equipped with rice mills, de-stoners, threshers, drying slabs, power tillers and storage areas.
- FED investments helped establish Liberia's first industrial rice mill (FABRAR Liberia), with a current annual milling capacity of 7,500 MT.
- Thirty-three cassava processors, including 25 micro-processors in the counties, have received FED assistance to upgrade processing capacity from 7,000 MT of cassava tubers to 39,000 MT. This has benefited more than 5,000 cassava farmers.

Horticulture

- The introduction of improved production technologies has led to higher quality and diversity of both local and high-value vegetables grown in Liberia. FED exposed farmers to two main production technologies: 1) use of rain shelters made from local materials (primarily bamboo); and 2) production of high-value vegetable products (tomatoes, lettuce, cabbage, okra, chili peppers, also possibly eggplant). Expansion will involve inviting leaders from the new clusters to expose them to the new technologies and entice them with the potential for expanded domestic and international markets.

Goats

- Approximately 108,000 small ruminants (sheep and goats) are being vaccinated against disease across four target counties during the course of the current PPR vaccination campaign. A FED subcontractor is training and mobilizing 300 community animal health workers to administer these vaccinations.

Market Linkages and Financing

- Project interventions resulted in the emergence of successful aggregators/integrators, such as John Selma in Lofa County, who provide embedded services like pre-financing and market access to farmers. Mr. Selma purchases paddy from farmers and supplies industrial processors such as FABRAR Liberia, WFP and other institutional buyers and community markets.
- A trial shipment of two 5-kilogram boxes of okra to be sent to a Paris-based importer is scheduled for early in the next reporting period, with expanded trials of okra and chili peppers to follow should the initial trial prove successful. This activity has experienced some delays

because of the cancellation of flights on Brussels Airlines. FED has financed the construction of 38 rain shelters, allowing for demonstration of modern vegetable production practices during the long rainy season, as well as the introduction of 180 water pumps and drip irrigation kits to help farmers expand vegetable production during the dry season.

- FED facilitated a buyer-seller linkage between four project-supported vegetable production clusters supplying Monrovia's Royal Grand Hotel. Approximately 22,500 kilograms of lettuce, cabbage, cucumber and tomatoes will be supplied to the hotel on an annual basis. This will result in a projected \$45,000 annual sales volume, if current prices hold. Talks have been initiated with other potential buyers, particularly the Golden Beach restaurant. Expansion to supermarkets would be the next phase for institutional buyers. In addition, 5 kilogram samples of okra and chili peppers are being readied for shipment to a buyer in France, which is expected to result in orders for larger shipments.
- 573 village savings and loan associations (VSLAs) were established, benefiting approximately 10,000 small-scale farmers, most of whom are women.

#### Capacity Building

- FED established the standardized National Diploma in Agriculture (NDA) curriculum being taught at three community colleges and the Booker Washington Institute (BWI). Soil science laboratories were renovated and equipped at these institutions for student teaching and farmer-support purposes, as well as library development. Libraries at each of these institutions are currently under renovation. To date, textbooks have been procured, internet connections established, and training on management of the soil science labs remains ongoing. Furthermore, work to develop the Centers of Excellence (COE) as fee-for-service entities are ongoing activities.
- FED continues to work closely with the MoA to “domesticate” ECOWAS seed, fertilizer and pesticide protocols, as well as support the Ministry of Commerce and Industry (MoCI) to draft and validate legislation involving 10 percent cassava composite flour in baking mixes.

## **Component One: Increase Agricultural Productivity and Profitability**

### **Task 1A: Increased Productivity and Profitability of the Rice Value Chain**

#### **Improving productivity and profitability of upland and lowland rice**

##### **Provide technical assistance to FY13, FY14, and FY15 upland and lowland rice groups:**

USAID FED continues to provide technical assistance to the FY13, FY14 and FY15 upland and lowland rice farming groups. This assistance is provided through USAID FED field extension staff and five LNGOs contracted by USAID FED. This reporting period, technical assistance was primarily focused on post-harvest management, site selection and clearing, as well as beneficiary selection for FY16. By the end of this reporting period, the contracts of all five LNGOs had expired. To ensure continuity, USAID FED has increased the number of extension officers at the county level to support ongoing implementation in preparation for the growing season to begin in earnest during the next reporting period.

##### **Support 5,250 new upland rice farmers to apply improved technologies on 750 hectares of new upland areas:**

By the end of this reporting period, USAID FED mobilized 5,250 beneficiaries (3,405 men and 1,845 women) who will be assisted to produce upland rice in FY16. These farming groups have signed memorandums of understanding (MoU) with USAID FED. Planting of upland rice is expected to commence in May. By the end of the reporting period, the new beneficiaries had cleared a total of 420 hectares of upland areas or 56 percent of the targeted 750 hectares across the four counties. These farmers will be provided with 45 metric tons of NERICA 14, a rice seed variety, by USAID FED.

##### **Support 7,000 new lowland farmers to apply improved technologies on 1,000 hectares of new lowland areas:**

USAID FED mobilized 7,000 beneficiaries (4,001 men and 2,999 women) who will be assisted to produce lowland rice in FY16. These farming groups have signed MoUs with USAID FED. Planting of lowland rice is expected to commence in June. By the end of Q2, the new beneficiaries had cleared a total of 107 hectares of lowland areas or 11 percent of the targeted 1,000 hectares across the four counties.

#### **Promoting embedded services by the private sector**

##### **Technical assistance to aggregators, traders, processors, and rice business hubs in creating business-to-business models to embed services to farming groups:**

Afriland Bank conducted an evaluation of Selma Agriculture Corporation's operations to determine whether this integrator could qualify for trade financing. Mr. Selma previously received assistance by USAID FED and IBEX to prepare and submit a loan application seeking US\$100,000 in trade capital. By the end of Q2, the bank had not issued a final decision regarding the status of the loan application. The

matter of trade capital remains crucial for the procurement of rice stocks in Lofa County for processing and to ultimately supply institutional buyers and community markets.

The Selma Agriculture Corporation has already supplied 50 metric tons of paddy rice to FABRAR Liberia, out of a contract to supply FABRAR Liberia with 280 metric tons valued at US\$168,000 for FY 16. The aggregator milled 30 metric tons of rice valued at US\$21,000 for WFP, which will be supplied in April. Those figures are consistent with USAID FED's scheduled target supply rates. The aggregator has already established an extensive network of rice farmers (both USAID FED and non-USAID FED supported) who will supply paddy rice for milling.

**Support two aggregators with trucks on cost-share to support timely and reliable aggregation and transportation of paddy rice:**

USAID/Liberia agreed to provide a truck to the Selma Agricultural Corporation thereby effectively canceling procurement plans for a brand new truck. Mr. Selma is expected to take delivery of the truck in April after the requisite documentation has been submitted and processed to the satisfaction of the U.S. Embassy. The vehicle will assist farmers across Lofa County to transport their paddy and other agricultural products from farm-to-market and to processors, especially during the rainy season at which time the cost of transportation increases substantially due to bad road conditions.

**Promoting two rice crops a year**

**Technical assistance to 42 irrigation spillway sites for double cropping:**

USAID FED's rice specialist provided technical assistance to the 42 water management infrastructure sites in preparation for double cropping with rice or vegetables. By the end of this reporting period, 90 out of the targeted 210 hectares supported by spillways were developed for double cropping, most of which has since been planted. USAID FED's rice specialist also conducted demonstrations to farmers on the water management sites on how to effectively plant using paddy drum seeders. The drum seeder is a simple technology that saves significant labor time and promotes line planting in the lowlands.



*Figure 2: Drum Seeder in Doetain-ta community, Kpahi District*

**Enhancing post-harvest management practices**

The rice business hub in Salala, Bong County was completed during this reporting period, with equipment installed and tested. Construction and installation of equipment on all eight remaining rice business hubs will be completed by April 30, 2016. All the sites now have the materials needed by the contractors to complete construction.



*Figure 3: Newly constructed Rice Business Hub in Kenjallah and Mayor Farms, Lofa County*

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

### **Improve productivity of cassava farmers**

#### **Provide technical assistance and farming guides to FY13, FY14 and FY15 cassava groups to ensure they continue to apply improved practices and use improved varieties:**

With the conclusion of the LNGO contracts in February, USAID FED county extension officers continued to monitor and provide technical assistance to continuing cassava farmers. USAID FED contracted additional extension staff in March to provide implementation support in the absence of these LNGOs. It remains a challenge to effectively cover the large number of staff with the limited remaining personnel resources.

#### **Support an additional of 6,000 new beneficiaries for FY16 cassava production:**

USAID FED mobilized 6,000 new cassava farmers (3,504 male and 2,496 female) for the FY16 production season, with the farming groups signing MoUs. These groups are being provided improved cassava cuttings and will commence planting in April. Three hundred lead farmers will be trained and 300 hectares of demonstrations established by the end of May. In total, 1,600 hectares of land will be placed under cassava production.

#### **Demonstrating ISFM using legumes for intercropping:**

USAID FED continued to follow up with the West Africa Agriculture Productivity Program (WAAPP) on their commitment to provide legumes for intercropping purposes. USAID FED will provide WAAPP with a list of the selected beneficiaries as well as requirements for cowpeas and peanuts.

### **Increase Market Access**

#### **Support integrators to link production to processors and markets:**

USAID FED continued to provide technical assistance and to monitor the operations of 25 cassava micro-processors in the counties and four small cassava processors in Monrovia. All 26 defective screw presses were repaired by the vendor and returned to the beneficiaries in good working condition. USAID FED has upgraded the output capacity of each microprocessor to 3 metric tons per week, up from one metric ton per week prior to FED assistance. The microprocessors are located within

production clusters supported by USAID FED and have the potential to support approximately 29,000 farmers. Similarly, the output capacity of the small processors has been upgraded to 6 metric tons per week, increased from 3 metric tons per week before assistance.

## **Increase Access of Processors, Traders, Logistics Providers and Integrators to Financial and Business Development Services**

### **Support at least five new micro-processors in Grand Bassa County to upgrade their processing and storage capacities:**

Five new cassava micro-processors to be supported in FY16 were identified in Grand Bassa County. Assessments of these facilities were initiated to determine technical and hardware requirements needed to upgrade processing operations. The final assessment report will be submitted in April. These processors will also be linked to financial services (i.e., loan associations and commercial banks) to increase access to the capital required to procure equipment. The micro-processors will also be trained on food handling, processing and enterprise management.



*Figure 4: Cassava press being tested for defects by USAID FED's equipment technician at Wainsue, Bong County*

### **Establish an industrial size processing facility with an investor through cost-share**

USAID FED contracted Long Engineering services to conduct an environmental impact assessment (EIA) of the proposed FALAMA flour mill. The assessment will be completed in April, after which FALAMA will begin the building's construction. USAID FED will provide technical assistance to FALAMA on the application process for securing Global Development Alliance (GDA) financing through Development Credit Authority (DCA) facilities with local banks. FALAMA personnel also will be trained on the management and maintenance of the processing facility.

No.	Name of processor	Manager	Location	Contact #	Year in operation	Capacity (bags/week)			# of workers	CFT Source
						Gari	Fufu	Total		
1	Hard work pays	Emu Faikai	Varmah Town, District #1		6	10	20	30	5	15
2	Love and unity	Oldpa Wredyu	James Henry Town, District #3	886311021	3	4	1	5	4	18
3	Boss Investment Limited Inc.	Basie Woods	Edwin Dean Town, District #3	888795155	2	6	25	31	11	20
4	Kpain-kpain-gbo	Samuel Blamo	Dabay Town, District #3	777223325	2	2	20	22	4	16
5	Muhn Town Friendship	Harris J. Wilson	Muhn Town, District #4	7776877425	15	4	30	34	5	19
Total						26	96	122	29	

*Figure 5: Cassava micro-processors identified in Grand Bassa County*



## Task 1C: Increased Productivity and Profitability of the Horticulture Value Chain

USAID FED continued to provide productivity-enhancing technologies and technical assistance to continuing FY 14 and FY15 farmers in all counties. The expansion of rain shelters in the Mount Barclay vegetable clusters of Mawah, Mensah and Chosen Generation Church Women and Youth Empowerment Program (CGCWYEP) will allow the farmers to grow vegetables even during the rainy months, when open field growing is limited to few vegetable types. The introduction of new varieties and the adoption of field-tested varieties provide the local market with varied choices of quality and competitively-priced, high-value vegetables. Continued technical support in production has precluded any disease and pest outbreaks in the field, although there are incidences of highly localized insect and disease attacks. Despite March's occasional rain showers, irrigation water is still a challenge for some production clusters.

Concurrent to the continuing productivity-enhancing interventions in horticulture, FED has increased its market-linkage activities for farmers to access high-value markets, such as hotels, restaurants and supermarkets. For example, USAID FED has facilitated a contract between the Royal Grand Hotel and three high-value vegetable producer groups in Montserrado County. These production clusters will supply vegetables to the hotel depending on their needs. The management of the Royal Grand Hotel visited these farmers in March and was impressed by the production activities. One of the goals is to access foreign exports markets for high-value vegetables, such as okra, through partnerships with offshore buyers and Brussels Airlines. A trial shipment of okra has been scheduled for April.

### Vegetable production and sales

The FY16 target for vegetables sales is US\$2.6 million, which will come from the production of about 400 hectares in Montserrado, Margibi, Nimba, Lofa, Grand Bassa and Bong Counties. The estimated sales target per month is US\$219,000 through the end of the FED project in September 2016.

County	Q1FY16			January '16			February '16			March '16			Q2FY16			YTD		
	Volume (Kgs)	Price (US\$/kg)	Value (US\$)	Volume (Kgs)	Price (US\$/kg)	Value (US\$)	Volume (Kgs)	Price (US\$/kg)	Value (US\$)	Volume (Kgs)	Price (US\$/kg)	Value (US\$)	Volume (Kgs)	Price (US\$/kg)	Value (US\$)	Volume (Kgs)	Price (US\$/kg)	Value (US\$)
Montserrado	111,681	1.83	204,577.00	48,776	1.98	96,439.00	36,570	1.96	71,724.00	32,564	1.94	63,167.00	117,910	3.09	364,183.00	229,591	2.48	568,760.00
Margibi	174,144	1.99	346,597.00	56,719	1.42	80,416.00	23,072	2.25	51,860.00	10,656	2.09	22,309.00	90,447	1.71	154,585.00	264,591	1.89	501,182.00
Bong	28,073	0.68	19,176.00	1,167	1.26	1,466.00	1,335	1.22	1,632.00	4,796	1.41	6,744.00	7,298	1.35	9,842.00	35,371	0.82	29,018.00
Nimba	25,764	0.48	12,444.00	0	0	0	0	0	0	19,674	0.37	7,244.26	19,674	0.37	7,244.26	45,438	0.43	19,688.26
Lofa	35,453	0.36	12,589.00	10,970	0.32	3,536.00	2,986	0.92	2,748.00	13,280	0.24	3,225.00	27,236	0.35	9,509.00	62,689	0.35	22,098.00
Grand Bassa	16,256	0.72	11,666.00	20,276	1.18	23,953.00	22,971	1.26	28,842.00	0	0	0	43,247	1.22	52,795.00	59,503	1.08	64,461.00

Figure 6: Vegetable harvests and sales by county, quarter and YTD FY16

The sales recorded in Q2 dropped by 23 percent, from US\$607,000 to US\$465,300, compared with the first quarter sales. Assuming a US\$15,000 sales value for the missing figures in January and February 2016 of Nimba and Grand Bassa, this is equivalent to a 21 percent reduction in sales profit. The year-to-date sales total is US\$1.072 million, which is 48 percent of the FY16 target value. The drop in sales

could be attributed to the shortage of water for irrigation to support production during this period. Farmers who do not have access to water forego planting while others have to move their vegetable plots closer to available water sources, leading to significant reduction in production. The water pumps provided to each vegetable cluster are insufficient to effectively meet the irrigation requirements of all farmers. While USAID FED distributed drip irrigation kits and some irrigation pipes to selected farmer groups, these were not sufficient to cover all USAID FED assisted farmers. This reduction in vegetable production also resulted in an increase in prices as shown in the above table. This was more pronounced in Montserrado, where the average price rose from US\$1.83 per kilogram to US\$3.09 per kilogram, a 67 percent increase.

## Improving productivity through GAP and IPM

### Sustain technical assistance to 321 farmer groups (including 25 agribusinesses) on GAP, IPM and other productivity enhancing technologies:

The USAID FED horticulture specialist and field extension staff continue to provide technical assistance to the 321 farmers groups in the six counties. With limited capability to cover all groups, FED focuses on production clusters with good performance and growth potential.



**Figure 7: Sucking aphids on watermelon leaves**

New varieties are continuously being tested to determine those best-suited to Liberia's vegetable growing conditions. For example, three okra varieties (Shangar FI, Indiana, and Clemson spineless) are being field tested to determine which is the most acceptable to a vegetable importer based in Paris, who has been identified as a potential buyer, and to the local market (Figure 7, left). Various tomato varieties, most of which are imported,



**Figure 8: Okra with signs of African cotton bowl worm (*Helicoverpa armigera*) attack**

are also being grown in rain shelters and open fields for possible import substitution (Figure 7, right). Other types of vegetables being tested include carrots, radish, onion spring, Chinese cabbage and new varieties of cabbages.



**Figure 9: Shangar FI okra variety (left) & Tomato grown in a rain shelter (right), Careysberg production Cluster, Carysberg, Montserrado**

Pest- and disease-monitoring and control advisories provided by USAID FED experts have significantly reduced outbreaks in the field. Although some pests and diseases were found, these are highly localized and minimal (Figures 8 and 9). Some of the pests identified were African cotton bowl worm, black aphids, Cotton stainer, fusarium wilt, root knot nematode and cabbage soft rot. Farmers have gradually learned how to identify the pests and select the pesticide appropriate for control. Monitoring is also conducted through feedback from farmers via their mobile phones.

The distribution of drip irrigation kits provided temporary relief to some farmers from water scarcity during the summer months. However, the kits were not sufficient to adequately provide the water needed by the farms during this period. Some progressive production cluster groups, such as the Mawah production cluster, invested in two pumps to supplement the equipment received from USAID FED. The group also used the sprinkler irrigation system introduced by USAID FED to substantially reduce water losses from seepage and spillovers when using the furrow irrigation or open-canal method.



*Figure 10: Tomato grown in the RS, Mensah production center, Mount Barclay Montserrado*

## Technology introduction and adoption

### Production in rain shelters:

Rain shelters allow farmers to grow high-value vegetables (i.e., tomato, cabbage, lettuce, cucumber) all year round (Figures 10 and 11). Farmers usually do not plant high-value vegetables during the rainy months because of the high risk of flooding, increased incidence of pest attack, mechanical damage caused by high intensity rainfall and the difficulty in accessing the plots.

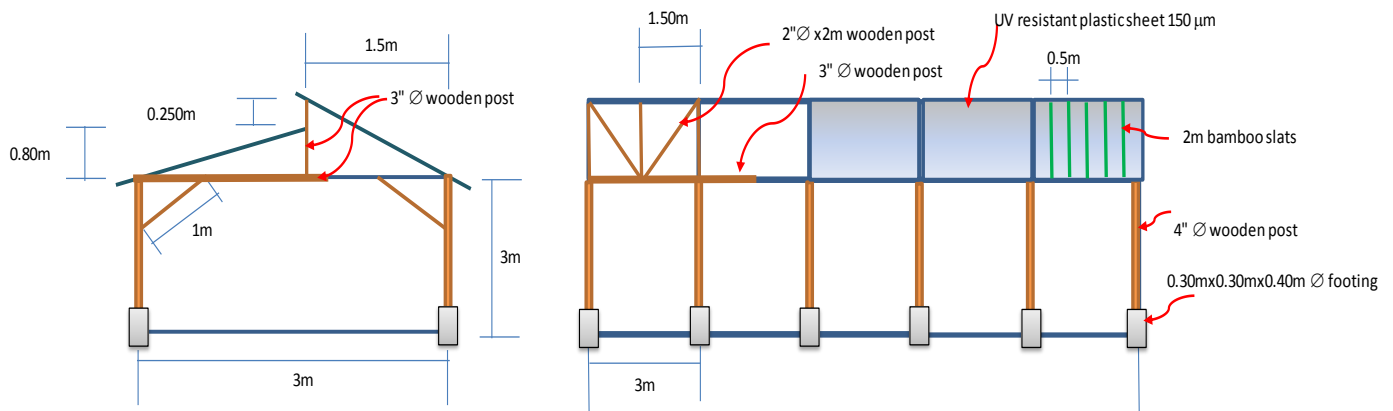
USAID FED will construct additional rain shelters for three clusters at Mount Barclay, Montserrado during the next reporting period, using locally available materials such as bamboo and wooden poles (Figure 12). Due to the absence of UV resistant plastic sheets in the local market, ordinary polyethylene plastic sheets will serve as roofing. The farmers will provide the bamboo materials and the labor for constructing the structure. The direct involvement of the farmers will generate a sense of ownership to encourage farmers to actively participate in the operation and maintenance of the facility.



*Figure 11: Cabbage grown in Careysburg RS, Careysburg, Montserrado*

As shown in Figure 13, farmers in Mawah cluster have started construction of the expanded rain shelters. This has an area of about 180 square meters, and costs US\$5 per square meter for the wooden

pole structure and US\$3 per square meter for the bamboo structure. The original shelters made with galvanized iron frames cost US\$50 per square meter, including installation.



**Figure 12: FED designed RS using local materials**

Since this construction involves considerably lower cost, other production clusters could invest in additional rain shelters on their own initiative. Vegetable *kuu* (the traditional farm-grouping system) could be brought to the site once the plant beds are prepared for planting. The Mensah production cluster has already visited the site and is preparing to start construction by April. As with Mawah, USAID FED will provide the construction materials while the farmers' counterparts will provide labor, sand and local materials such as bamboo.



*Carrying the wooden poles to the site*



*Preparing the site*



*Constructing the structure*



*Leveling the planting beds*



*Installing the wire and PE sheet*

**Figure 13: Mensah farmers construct the expanded rain shelter**



## Reduce harvest and post-harvest losses of vegetables

A packing house for the sorting, grading and packaging operations will be constructed in two of the FED-supported vegetable clusters. In Mawah, the farmers will rehabilitate an existing mud brick building, which will be provided with a charcoal cooler, sorting tables, wash basin and lay-down area for harvested vegetables (Figure 14). Similarly with the shelter construction, farmers in the cluster will contribute labor and some materials, including sand, bamboo poles for the sorting tables and for the frame of the charcoal cooler. USAID FED will provide lumber for the windows and doors, the screen, corrugated iron sheets for roofing, cement, plastic crates and wash basins.

The development of cold chains to reduce postharvest losses has faced challenges. The two cold storage containers for ROSNA are currently sitting idle after losing the catering contracts with Ancheloor Mittal Mining Company in Buchanan, Grand Bassa County and Yekepa in Nimba County. USAID FED will assist ROSNA to develop strategies for optimizing use of these facilities.

The cold storage container located in GBomai's farm at Charlesville, Margibi County has not been in operation since it was installed because of organizational problems. This has, in turn, slowed down farm activities considerably. With the assistance of USAID FED, the farm hired experienced workers to operate and manage the farm. The farm's proximity to the airport (about 2 kilometers) still makes it an ideal production center for exporting vegetables in the future.



*Figure 14: Mud brick structure that will be rehabilitated as a packing house, Marwah Cluster*

## Provide technical assistance to 321 farmer groups (including 25 agribusinesses), six trader associations and transporters on good harvesting and post-harvesting practices

### Establishment of Zero Energy Coolers:

The construction of zero-energy coolers (ZEC) in the four counties is waiting completion. There have been challenges to finding strategic locations free of land ownership issues. USAID FED met with the Ganta Marketing Association to resolve rehabilitation and operational protocol issues. The association wants FED to continue the rehabilitation of the cooler, while they will operate, manage and maintain the cooler. USAID FED's initial assessment showed the door of the ZEC and some bricks missing. Since the cost of the materials is not substantial, the door and the remaining bricks will be sourced from standing inventory in the counties.

### **Establishment of Charcoal Coolers:**

The establishment of pending charcoal coolers was canceled after the discovery of technical design problems. As reported last quarter, the type of wire netting holding the charcoal needs to be replaced. Moreover, feedback from the field indicates that the coolers have limited capacity.

A redesigned charcoal cooler will be adopted for the Mawah production cluster. This will be an improved version over the limitations of the old design. The newly designed charcoal coolers will be supplemented by other materials to enhance functionality and durability. The charcoal cooler will provide a temporary storage with lower than ambient temperature for harvested vegetables to minimize rapid evapo-transpiration and thereby lengthening the shelf life of vegetables.

### **Strengthening farmer-market linkages and expanding markets**

In February, USAID FED linked the Mensah, Careysberg and Mawah production clusters to Royal Grand Hotel in Monrovia to supply high-value vegetables. From January to February 2016, the total value of vegetables delivered by these groups more than doubled (see table below – Figure 16). This is expected to increase in the months ahead with the enhanced construction of rain shelters and adoption of additional improved production technologies. Currently about 60 farmers from three clusters are benefitting from this market linkage arrangement. The potential supply volume is about 2.25 metric tons per month with an estimated monthly sales value of US\$4,500. Figure 15 shows the General Manager of Royal Grand Hotel visiting USAID FED assisted farmers of Mawah, Mensah and Careysberg production clusters.



*Figure 15: Mr. Wael Hariz visiting FED-assisted vegetable farms*



	Jan 26 to Feb 25			Feb 26 to March 25			TOTAL		
	Qty (kg)	UP (US\$)	Value (US\$)	Qty (kg)	UP (US\$)	Value (US\$)	Qty (kg)	UP (US\$)	Value (US\$)
<b>US Embassy</b>	<b>368</b>	<b>2.26</b>	<b>831.39</b>	<b>120</b>	<b>2.46</b>	<b>295.05</b>	<b>488</b>	<b>2.31</b>	<b>1,126.44</b>
Leafy veggie	247	2.49	614.90	120	2.46	295.05	367	2.48	909.95
Cabbage	69	2.50	172.50	43	2.50	107.50	112	2.50	280.00
C-cabbage	44	2.24	98.50	0	0.00	0	44	2.24	98.50
Lettuce	134	2.57	343.90	77	2.44	187.55	211	2.52	531.45
Fruit veggie	121	1.79	216.49	0	0	0	121	1.79	216.49
Dong gua	30	1.33	39.90	0	0	0	30	1.33	39.90
Eggplant	28	2.00	56.00	0	0	0	28	2.00	56.00
Okra	40	2.25	90.00	0	0	0	40	2.25	90.00
String beans	23	1.33	30.59	0	0	0	23	1.33	30.59
<b>G Royal Hotel</b>	<b>129</b>	<b>2.64</b>	<b>341.70</b>	<b>284</b>	<b>2.25</b>	<b>636.63</b>	<b>413</b>	<b>2.37</b>	<b>978.33</b>
Leafy veggie	94	2.69	254.20	232	2.21	511.13	326	2.35	765.33
Cabbage	58	2.50	145.00	107	1.83	196.13	165	2.07	341.13
Lettuce	36	3.00	109.20	124.5	2.53	315.00	161	2.64	424.20
Fruit veggie	24	2.50	60.00	52	2.41	125.50	76	2.44	185.50
Cucumber	24	2.50	60.00	34	2.50	85.00	58	2.50	145.00
Okra	0	0	0	18	2.25	40.50	18	2.25	40.50
Root veggie	11	2.50	27.50	0	0	0	11	2.50	27.50
Radish	11	2.50	27.50	0	0	0	11	2.50	27.50
<b>Total</b>	<b>497</b>	<b>2.36</b>	<b>1,173.09</b>	<b>404</b>	<b>2.31</b>	<b>931.68</b>	<b>901</b>	<b>2.34</b>	<b>2,104.77</b>

*Figure 16: Volume and value of delivered vegetables to the US Embassy and Royal Grand Hotel*

As also indicated in the table above, the Mawah production cluster at Mount Barclay, Montserrado County has been supplying the U.S. Embassy with a variety of produce. Although the value (US\$831) sold in January 2016 was more than the sales of Royal Grand Hotel, it sharply dropped the next month (US\$295). This indicates a more pronounced seasonality in demand, which changes with the number of special events.

Aside from Grand Royal Hotel, FED has initially discussed with Mr. Van, owner and General Manager of Golden Beach Resort for the possible supply of high value vegetables by Mawah farmers. A meeting early in the next reporting period has been arranged between FED and the Mawah kuu leader and Mr. Van.

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

### Promote Improved Herd Management Practices

#### Technical assistance to continuing FY13, FY14, and FY15 farmers:

USAID FED continued to provide technical assistance to the FY13, FY14 and FY15 goat producer groups in 180 goat production intensification sites during this reporting period. This assistance was

provided through USAID FED's field extension staff and four sub-contracted LNGOs. Technical assistance encouraged farmers to continue to use the goat shelters for herd management, provide animals with the right feed and the need to properly select and fatten the proper animals before sale. The contracts of the four LNGOs expired in March. USAID FED has contracted additional extension staff to support with field implementation in the absence of the LNGOs. While USAID FED continuously engages with the most aggressive and vigorous community animal health workers (CAHW) and lead farmers to ensure that information on productivity and sales can be collected, this remains a challenge as most of the CAHWs and lead farmers expect some form of remuneration for their participation.

**Train 3,928 new beneficiaries on herd management practices and mineral salt lick fabrication:**

USAID FED mobilized 3,948 new beneficiaries (2,495 men and 1,453 women) from satellite communities around the existing 180 goat production intensification sites supported in FY13, FY14 and FY15. As such, the target for goat farmer beneficiaries to be identified for support in FY16 has been met. These goat producer groups are being assisted in April to design smaller shelters using locally available materials - at no cost to USAID FED - and mineral salt lick fabrication.

**Kidding and mortality rates:**

A total of 794 new kids (372 male and 422 female) were born in the FY13, FY14 and FY15 goat production intensification sites. Since October 2015, 1,580 kids have been born within these herds and 5,469 kids weaned into adulthood after completing a six month cycle. The total herd size at the end of Q2 was 18,343 animals. In Q2, 173 goats were reported dead at FED-supported sites across the four counties. The causes of death were mostly attributed to diarrhea and the consumption of plastic. However, in Nimba where the majority of mortality was observed, the causes of death could not be determined. After mortality is taken into consideration, the herd size at the end of the reporting period was 18,170 animals (11,132 does, 4,926 bucks and 2,112 kids). This is considered a very low mortality rate of 1 percent.

**Access to veterinary care:**

A total of 1,312 animals were treated for various ailments by CAHW through fee-based services. Most of these animals, especially in Grand Bassa and Nimba Counties, were dewormed. Since October 2015, a total of 3,895 animals have been treated by CAHWs in the four counties.

**Provide technical assistance and training to lead farmers/private sector players on breeding and community buck exchange**

ACDI/VOCA's Farmer-to-Farmer program deployed a volunteer specialist, Dr. Daniel Miller, to train USAID FED assisted farmers in community goat breeding methods and herd management. A total of 83 participants (19 women and 64 men) in Lorplay, Tappita district, Nimba County were trained. The farmers received training on kid management, care of pregnant does, disease prevention, feeding practices, castration and animal selection for breeding. The specialist also conducted site visits to goat

producer groups in Nyao, Tropoue, Saclepea Mah and Zoe-Geh Districts, in Nimba County. On February 26, 2016 Dr. Daniel Miller presented his assignment findings to ACDI/VOCA senior management and USAID FED.

## **Establish Nucleus Breeding Herd at CARI**

### **Renovate the quarantine facility at CARI for housing the nucleus breeding herd:**

USAID FED's in-house engineer completed the drafting of designs that will be used during the conversion of the nucleus breeding herd facility at CARI. USAID FED also procured the services of an architecture and engineering firm, Five Star Company Inc., which will review and approve the designs. The A&E firm is expected to complete the due diligence and approvals by mid-April after which renovations will commence. USAID FED also received a commitment from Land O' Lakes to provide 100 animals for the nucleus breeding herd once the facility is completed.

### **Provide Assistance to MOA in the Control of Peste de Petite de Ruminant (PPR):**

The MoA and FED kicked off the PPR Vaccination Campaign at the MoA conference room in Monrovia during this reporting period. The meeting was attended by the Deputy Minister for Agriculture Sizi Subah, the Deputy Minister for Administration Seklau Wiles, BRAC and USAID FED senior management, among others. By the end of March, FED subcontractor BRAC had completed all the county level planning meetings as well as the training of vaccinators. It is anticipated that 108,000 shoats will be vaccinated in Bong, Nimba, Lofa and Grand Bassa during this exercise.



*Figure 17: Hon Seklau Wiles, Deputy Minister for Administration*

## **Formalizing livestock marketing**

### **Goat sales**

A total of 581 goats from the FY13, FY14 and FY15 sites were recorded as sold for a total of US\$38,435. In total, 1,895 animals from these sites have been sold for US\$122,483 since October 2015. This translated to an average of US\$ 65 per animal. The current sales achievements represent 40 percent of the anticipated annual sales target of US\$305,074.

## **Sub Task 1.1 Special Studies and MoA Data Collection System Development**

### **A. Data Quality Review:**

A rigorous, comprehensive, professional data quality review (DQR) was conducted during this reporting period. The purpose of this review was to enable FED to advise USAID of confidence levels of previously-reported results for each of FED's 18 PMP-mandated FtF indicators. This exercise was performed through a review of FED's data management systems, starting from previously reported

results traced back through the entire data-management process, to samples of supporting documentation containing data collected at the field level.

The DQR concluded that much of FED's data, particularly on the most critical outcome/impact indicators, is of poor quality and cannot be used for reporting or decision-making purposes. Serious deficiencies were discovered throughout the data management process, i.e., instrumentation, collection, collation, monitoring and quality checks, and how information was calculated and selected for reporting purposes. Essentially, this conclusion means that there may be little confidence in the preponderance of data contained in FED's previous monthly, quarterly and annual reports.

To address this troubling situation in the short time remaining under FED, USAID and DAI will engage in a two-pronged approach that seeks to provide reliable information on all 18 FtF indicators. USAID, for its part, will administer a comprehensive impact assessment to determine results on the eight indicators it has determined to be the most critical. This assessment will also explore household and quality-of-life improvements to complement the focus on the eight targeted indicators to further determine impact of FED interventions on its beneficiaries. FED's understanding is that USAID is developing a Scope of Work internally for this exercise, and seeks limited or no involvement of DAI or FED staff in order to ensure objectivity.

FED will assume responsibility for determining results that can be gleaned from existing documentation and/or additional surveys on the remaining 10 FtF indicators. A Home Office M&E specialist will oversee this process with FED's existing local M&E staff, to involve an initial STTA during the next reporting period in which the existing documentation will be thoroughly reviewed to determine if reliable results can be extracted. Upon completion of both tasks, FED will consult with USAID regarding any necessary next steps.

#### **B. Capacity Building for Ministry of Agriculture in Data Management:**

FED continues to work closely with the MoA to build capacity for rigorous data management, utilizing FED's own data quality challenges as lessons learned. These efforts include design of a three-step training program for Ministry staff that will take place during the next reporting period and include: (a) a one week strategic planning and results-based management workshop for senior- and mid-level Ministry personnel that exposes them to the critical need for evidence-based programming for reporting and decision-making purposes as well as the steps involved in developing such a program; (b) a one week training in SPSS for M&E specialists for data collation and analysis purposes; and (c) a one week training in data collection and reporting for field level staff. This effort is particularly important given the Ministry's focus on the Liberia Agriculture Transformation Initiative (LATA) which will involve a major commitment of public resources. Of particular emphasis will be the rigor essential for such a process and the responsibility of the Ministry to deliver and communicate reliable results to the Liberian public. LATA is a presidential initiative with strong backing by the Minister himself. FED staff will provide necessary follow-up to this training. Furthermore, FED will also propose to USAID the disposition of certain assets to the Ministry (i.e., motorcycles, a four-wheel drive vehicle, computer equipment, GPS, hand-held computers for data entry and processing, the FED server, etc.), that the Ministry will require to administer these activities. FED will also engage with the new USAID LADA

activity to consider ongoing training, technical assistance and follow-up with the MoA on this initiative to ensure continuity and to maximize prospects for success.

## Sub Task 1.2 Improved access to Agricultural Inputs

### Increase access to improved seed and good planting material

#### Provide technical assistance to 70 rice seed multiplication (RSM) sites in collaboration with Africa Rice:

During the previous reporting period, USAID FED contracted Emmanuel Lincoln as an STTA to oversee the project's RSM activities and as to serve as the focal point of contact with West African Agriculture Productivity Program (WAAPP) and Africa Rice.

By the end of February, harvesting on all upland and lowland RSM sites covering 435 hectare was recorded as completed. Seed inspectors completed their inspections on 42 sites, from where seed samples were taken to CARI for germination testing and purity analysis. The results of these tests will be received in April. Twenty-eight sites did not provide seed samples because of a variety of reasons. On five sites in Nimba County and five sites in Grand Bassa County, the seed inspectors had not



*Figure 19: CARI technician conducting seed tests at their laboratory*

completed their final inspections. Seed inspectors on 11 sites in Lofa declined to inspect the fields because of a delay in their payments. Seven sites in Bong County reported their seed as either having been eaten by birds or consumed locally.

To date, the 15 seed inspectors have submitted reports for 322 inspections out of a targeted 420. However, not all inspection reports have been received from the field, and it is anticipated that a

final report on the RSM program will be made available by USAID FED in Q3. WAAPP and Africa Rice were to independently inspect the 70 RSM sites to monitor their compliance on the seed certification protocols. However, their personnel only conducted one inspection visit in 2015. In March, they, with USAID FED's RSM manager, conducted visits to four sites in Bong County and one site in Nimba County. This may have negative implications on certifying the sites that will have been flagged to adhere to the protocols. The ability of CARI to test the seed samples accurately and quickly is also crucial for the certification process. Further, WAAPP is yet to commit to buying available seed rice from



*Figure 18: Seed rice available at Mayor Farmer's association*

farmers. Farmers have been asking anxiously when this procurement will take place as they have seed in stock.

### **Support to commercial production and marketing of cassava cuttings:**

USAID FED continued to maintain two cassava cutting screening sites located in Voinjama, Lofa County. Two supervisors and eight laborers were contracted to clear weeds and vegetation in preparation for harvesting of the sites. A total of 1.3 hectares was ratooned and harvesting postponed allowing for regrowth of the ratooned cassava. These sites will be harvested and cuttings distributed to 80 commercial nurseries in April. FED expects that 131,040 cuttings from nine improved varieties released by CARI and IITA, between 25cm to 30cm in length, will be harvested from the area and distributed to 80 commercial nurseries.

### **Increase access to agricultural inputs for farmers**

#### **Promote embedded financing for inputs through agro dealers and aggregators:**

USAID FED held several consultative meetings with the CNFA, the prime implementer of LADA, to discuss how both programs could potentially collaborate on activities related to agro-dealers and aggregator support, access to finance, enterprise development services, market linkages, and other downstream value chain elements. This collaboration will continue given that LADA is best-placed to continue and strengthen many of FED's downstream value chain elements. This partnership will also ensure that beneficiaries continue to receive technical assistance after FED concludes implementation. LADA has conducted preliminary assessments of agro-dealers and input supply distributors in Monrovia and in counties where USAID FED is active.

### **Promote Organic Fertilizer mix/Efficient use of Inorganic Fertilizer**

#### **Provide technical assistance to farmer groups to adopt composting at farm level:**

In February, USAID FED conducted a composting demonstration using a motorized shredder machine at the Mawah vegetable cluster in Mount Barclay, Montserrado County. The objective of the exercise was to demonstrate how farmers can use locally available organic matter to develop compost ingredients efficiently. A total of six farmers (four men and two women) participated in the demonstration. The Mawah vegetable farmers group has agreed to pay a 50 percent cost share on the equipment. A disposal request is pending approval from USAID.

### **Sub Task 1.3: Agricultural Extension Support**

#### **Create Access to and Availability of Standardized Extension Material**



*Figure 20: Farmers operating the shredder machine in Mount Barclay, Montserrado County*



**Print and disseminate extension materials and farmer guides to information access points:**

During this reporting period, USAID FED tested the validated and approved extension materials and farmer guides with USAID FED extension officers in Bong, Nimba and Grand Bassa Counties. The extension materials were successfully evaluated on their basis of content, structure and user friendliness. A total of 12 extension officers participated in the exercise. Based on the feedback received, additional adjustments on the materials were made. These extension materials and farmer guides will be printed and disseminated to various stakeholders in April.

**Train extension personnel on the use of extension material and farmer guides:**

USAID FED conducted training for 292 participants (262 men and 30 women) in Bong, Nimba, Lofa and Grand Bassa on the use and dissemination of the extension materials and farmer guides. The two-day training was held in each county. Participants included lead farmers, private firms, extension staff from civil society organizations, LNGOs, District Agricultural Officers from the MoA, and community colleges.

County	Number of participants trained	Number of men trained	Number of women trained	Lead farmers	Private firms	Government	LNGOs	Community Colleges
Bong	81	76	5	39	30	8	4	0
Nimba	87	78	9	54	24	4	4	1
Lofa	73	67	6	25	40	2	5	1
Grand Bassa	51	41	10	26	20	0	4	1
Total	292	262	30	144	114	14	17	3

*Figure 21: Training of extension personnel on the use of extension materials and farmer guides*

These institutions will be provided with copies of the extension materials and farmer guides during the next reporting period. Using these materials, these institutions will play a critical role in passing on extension information and knowledge to farmers beyond the life of USAID FED. Participants also received nutrition messaging.



*Figure 22: Goat value chain manager training extension officers use goat value chain materials*

### **Production and broadcasting of agriculture radio programs:**

Four editions of the “On the Farm” radio program were produced and broadcasted by UNMIL Radio and the United Methodist Radio stations. To date, eight editions of “On the Farm” have been produced showcasing best practices and success stories emerging from USAID FED assisted farmer groups and aired by partner radio stations in Monrovia and in the counties.

## **Subtask 1.4 Youth in Agribusiness**

### **Provide technical assistance to 25 youth agribusinesses enterprises towards production of high value vegetables and cassava tuber**

#### **Provide 25 peri-urban agribusiness enterprises with simplified farmer guides on improved varieties, GAP and IPM for production of high-value vegetables and cassava tubers:**

During this reporting period, USAID FED provided training to personnel from the MoA, LNGOs and civil society on how to effectively disseminate extension materials and farmer guides for rice, cassava, vegetables and goats value chains to farming groups. These materials were validated by various stakeholders participating in the agriculture sector. USAID FED will print the extension materials in April. The 25 peri-urban youth agribusiness enterprises located in Montserrado and Margibi Counties will be provided with the necessary materials for vegetables and cassava once printing is completed.

#### **Provide 25 peri-urban agribusiness enterprises with technical assistance, extension services and access to pesticides and chemicals for Integrated Pest Management through agro-dealers:**

FED continued to provide technical assistance to the 25 peri-urban youth agribusiness enterprises. This assistance was provided through a youth-in-agribusiness officer and the horticulture value-chain team, as well as 25 trained youth extension aides working for Green Coast Agriculture Program (G-CAP), an LNGO contracted by USAID FED. Technical assistance provided by USAID FED included transplanting, GAP and IPM for vegetables.



*Figure 23: Lucy Davis, a member of Kaker agricultural development youth group, on a cabbage farm in Todee District, Montserrado County*



*Figure 24: Youth lead farmers receiving drip irrigation training in Japan's Town*

By the end of Q2, the 25 peri urban youth agribusiness enterprises had placed 199 hectares of land under vegetable production in Montserrado and Margibi. The vegetable varieties cultivated included African eggplant, cabbage, corn, watermelon, bitterball and chili pepper. A total of 49 hectares were harvested during the reporting period yielding 32 metric tons of vegetables.

USAID FED trained the 25 peri-urban youth agribusiness enterprises on how to install and maintain drip irrigation technologies for dry season production through field demonstrations during the month of February 2016.

**Organize meetings between 25 peri-urban agribusiness pilots and buyers/processors to facilitate market access for their produce:**

**Vegetable sales**

The peri-urban agribusiness enterprises sold a total of 8.7 metric tons of assorted vegetables for US\$18,728 during this reporting period. Since October 2015, these enterprises have sold a total of 29.8 metric tons of vegetables for US\$47,641.

**Train 25 peri-urban agribusiness enterprises on improved cassava production methods and practices:**

In order to ensure that cassava processors in Monrovia have affordable access to their preferred cassava tuber varieties for processing, USAID FED is supporting the 25 peri-urban agribusiness enterprises to cultivate cassava in Montserrado County. In Q2, 210 youth (103 men and 107 women), all of whom are existing members of these enterprises, will be trained on improved cassava production methods. They will also be provided with cassava cuttings to individually plant a quarter of a hectare each. Fifty hectares will be put under cassava production in Montserrado County in 2016. By the end of this quarter, the youth had cleared 40 hectares in preparation for planting.

**Support the development of sustainable operations of 126 youth agro-enterprises**

**Supporting job creation through youth enterprises as transport service providers:**

At the end of this reporting quarter, 49 tuk-tuk operators had generated US\$102,540 in revenue from the transportation of agricultural commodities.

County	Entrepreneurs who have started operating	Revenue generated in Q1 (US\$)	Revenue generated in January (US\$)	Revenue generated in February (US\$)	Revenue generated in March (US\$)	Total revenue generated (US\$)
Bong	15	\$7,805	\$7,367	\$9,945	\$8,250	\$33,367
Montserrado	7	\$4,388	\$4,433	\$5,425	\$7,350	\$21,596
Lofa	15	\$6,587	\$6,933	\$9,632	\$10,200	\$33,352
Nimba	12	\$7,328	\$6,967	\$9,048	\$7,968	\$31,311
Grand Bassa	5	\$2,557	\$2,917	\$3,380	\$2,825	\$11,679
<b>TOTAL</b>	<b>49</b>	<b>\$28,665</b>	<b>\$28,617</b>	<b>\$37,430</b>	<b>\$36,593</b>	<b>\$131,305</b>

*Figure 25: Revenues generated from transport services*

**Supporting job creation through youth enterprises as power tiller service providers:**

The 30 power tiller operators provided tilling services to 745 hectares of lowlands as part of their cost share obligations by the end of the reporting period. These operators will be linked to the FY16 lowland farmers between May and July in order for them to provide tilling services to an additional 695 hectares towards completion of their cost-sharing obligations.

**Subtask 1.5: Improving Human Nutrition****Implement diet behavior change strategy:**

In January, USAID FED's nutrition officer attended the Global Learning and Evidence Exchange (GLEE) workshop, which was organized by the Strengthening Partnerships, Results and Innovations in Nutrition Globally (SPRING) in Accra, Ghana. The workshop was funded by USAID's Bureau of Food Security and took place from January 19 to 21, 2016. The workshop's objectives were to create a forum for knowledge sharing and learning; to strengthen the participants understanding of USAID's Multisectoral Nutrition Strategy; and to identify potential gaps and strengthen promising approaches in multisectoral nutrition programming.

Some of the workshop's recommendations are being integrated into USAID FED's FY16 nutrition programming. These include collaborating more closely with the Ministry of Health and Social Welfare (MoHSW), the MoA and other USAID projects on nutrition messaging on behavior change; increasing access and availability of nutritious foods through value chain production activities; promoting food fortification at the processing level; and ensuring women are primarily targeted to improve their wellbeing with respect to food security and nutrition.

**Dissemination of nutrition messages:**

A total of 289 individuals (254 men and 35 women) received direct nutrition messaging from USAID FED during this reporting period. These messages were disseminated during training workshops held in Bong, Nimba, Lofa and Grand Bassa Counties on the use of extension materials developed by the project's extension support unit. These workshops targeted LNGOs, district agricultural officers from the MoA and personnel from civil society organizations.

**Distribution of nutrition flyers and teaching aides:**

In March, USAID FED printed 800 nutrition flyers to be distributed to FY16 lead farmers across the six counties during Q3's training sessions for rice, cassava, goats and vegetable lead farmers. The flyer was designed and approved by the MoHSW and the MoA in 2015. Further, 800 copies of teaching aides developed to support behavior change communication activities will be printed in April and distributed to selected lead farmers.

## Component Two: Stimulate Private Sector Growth and Investment

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

#### Policy Reform Activities via Technical Working Groups and 10 Percent Cassava Composite Flour Policy Development

USAID FED continues to support the GoL to develop their technical capacity to identify, formulate, and implement policies and practices to facilitate the growth of the private sector in agriculture and its related commercial enterprises. In FY15, FED supported the GoL to implement and adapt ECOWAS seed, fertilizer and pesticide regulations to the Liberia regulatory context. With the domestication of the seed, fertilizer and pesticide policies, the focus is to enact legislation by establishing the coordinating units to navigate the legal and statutory frameworks. Additionally, FED will support the adoption of a 10 percent cassava flour composite policy that will require all flour produced and distributed in Liberia to contain a minimum of 10 percent cassava.

To achieve these goals, USAID FED is working with an agriculture policy expert, Dr. Roland Massaquoi, who developed and presented an implementation timeline for completion to the USAID COR and FED team. The timeline is expected to be completed in early Q3. Dr. Massaquoi outlined plans to validate the domestication of the ECOWAS policies on seeds, fertilizers and pesticides, and also the timeline for promoting adoption of the 10 percent cassava flour composite policy. According to the proposal, USAID FED will recommend two divisions to oversee the domestic adoption of the ECOWAS policies; the seeds policy will require its own division and the pesticides and fertilizers policies will fall under a separate division. FED expects both divisions to be seconded within the MoA and have similar governance structures, certification mechanisms, technical authority and compliance regimes. The proposed bodies that are necessary to implement the legislative framework are:

- National Seed Development and Certification Agency (SDCA)
- Plant Protection and Regulatory Services Bureau (PPRSB)
- National Council for Pesticide Regulation and Management (NCPRM)
- Liberia Fertilizer Regulatory System (LFRS)
- National Flour Council

The 10 percent cassava flour composite policy will take lessons from policies adopted in Nigeria, Uganda and Ghana, all of which experimented with cassava-composite policies with composite rates ranging from 5 percent to 40 percent. However, fluctuations were observed in composite rates in these countries, because the rates were often established without consideration for market demand. To avoid similar fluctuations, the timeline proposed by USAID FED includes robust stakeholder engagement. This will include high-level partners such as MoA, MoCI and international donors like the WFP. Additionally, public education efforts will inform consumers of important information about cassava flour, such as the fact that cassava with iodine will not cause goiters and is less likely to lead to problems associated with diabetes; two factors currently contributing to reduced consumption in Nimba County.



In designing the policy adoption strategy, Dr. Massaquoi met with officials at the CARI Institute in Bong County and relevant MoA technical leads to develop stages of the work plan, which will be implemented through August 2016. The proposed policy plan for cassava should be available for review by USAID, MoA and FED by May 2016, with a follow-on roundtable discussion to generate stakeholder support scheduled for later in the month.

## **Sub Task 2.1 Access to Finance**

### **Village Savings and Loan Associations**

#### **EDUCARE**

During the reporting period, EDUCARE submitted its final report covering 373 VSLA groups within the six counties targeted by FED. The number of VSLA groups supported in each county is:

- Lofa – 75
- Nimba – 75
- Bong – 75
- Bassa – 75
- Margibi – 32
- Montserrado – 31

The report captures all activities related to VSLAs, all of which completed their first cycle and first “share out.” The cycle reflects a timeframe of 9 to 12 months, during which members of each VSLA share together and take out small loans as voted on by members. At the end of each cycle, savings from the loans and loan repayments are distributed among the membership. EDUCARE reported that each group completed the share out phase of its first cycle after a period of either 9 or 12 months.

#### **VSLA Village Agents**

In March, FED hired 21 short-term staff to continue the monitoring, support and reporting on 373 VSLA groups previously supported by EDUCARE. This cadre of short-term technical assistants largely consists of village agents, who are embedded at the county level. Each agent provides assistance in the form of monitoring, accounting and reporting for 20 to 25 VSLA groups. Additionally, village agents verify the number of active members in each VSLA, the number of shares purchased weekly, the number of loans taken out number, and the loan repayment schedule. In cases in which loans generate short-term jobs within the community, these figures are also recorded and verified by the village agent. The village agents will continue technical assistance through August 2016.

#### **Expansion of loans**

During Q2, the Central Bank of Liberia (CBL) extended loans to 12 FED-supported VSLA groups in Nimba County. Each group received a loan for LD\$195,000, equivalent to US\$2,222 (at the rate of LD\$90 to US\$1). This achievement reflects more than one half of the FED target to support 20 VSLA entrepreneurs’ access central bank loans in FY16.

	Name of VSLA Group	Members	Loan amount	Total Interest on loan	Loan term	Value chain
1	Behyeepea Lorkia	30	\$2,222.00	3%	3 years	Cassava
2	Troupoe Lorkia	30	\$2,222.00	3%	3 years	Goat
3	Kwakerseh	30	\$2,222.00	3%	3 years	Cassava
4	Kweelee	30	\$2,222.00	3%	3 years	Goat
5	Zehlor Kwakerseh	30	\$2,222.00	3%	3 years	Rice
6	Zubah woman	30	\$2,222.00	3%	3 years	Cassava
7	Dao-kenwoman	30	\$2,222.00	3%	3 years	Cassava
8	Zlaluah woman	30	\$2,222.00	3%	3 years	Cassava
9	Bahn Kwadoe #1	30	\$2,222.00	3%	3 years	Cassava
10	Doedelah	30	\$2,222.00	3%	3 years	Cassava
11	Daylah woman	30	\$2,222.00	3%	3 years	Rice
12	Kolakeh	30	\$2,222.00	3%	3 years	Rice
Total		360	\$26,664.00			

*Figure 26: The table shows USAID FED-supported VSLAs that obtained central bank loans*

The USAID FED finance officer traveled to the VSLAs in Nimba which were successful in obtaining CBL loans. He congratulated the groups on their ability to enter collective savings associations with members of their community in order to access credit. He reminded groups of the importance to repay loans at the 3 percent interest rate in a timely manner to avoid penalties and the risk of defaults. Additionally, the FED component two lead traveled to VSLA groups in Montserrado and Margibi counties on March 16, 2016 to conduct due diligence and verify ongoing VSLA activity in the counties. Although several groups altered their weekly meeting times, all VSLAs verified were active, demonstrated community ownership and demonstrated comprehensive knowledge of the village-savings model. The four groups were able to produce an up-to-date passbook for each of their members, the collectively owned logbook and the lock box that contains the village cash savings.

### **Subtask 2.3: Women Participation in Agribusiness**

FED's women-owned enterprise mentor finalized the groups participating in the agribusiness incubation activity and developed a template for tracking their progress. The program did not meet the initial goal of identifying all businesses in the incubation before the end of the previous quarter. However, the 26 women-owned businesses that were selected for incubation are expected to remain constant for the remainder of the project. The mentor responsible for the activity worked with businesses to establish targets that can be achieved under the incubation. These were submitted in February, but FED requested that businesses further quantify their goals for the remainder of the incubation period. FED will provide business development services (BDS) to all women owners of the companies and will select any high-performing organizations that might qualify for additional support in the attainment of their objectives.

USAID FED Women-owned Business Incubation	
County	Organizations
Bong	<ul style="list-style-type: none"> <li>• Tohnlo Women and youth Empowerment Program</li> <li>• Wellikermah Women</li> <li>• Bong Multi - Purpose Cooperative Society (BOMCOS)</li> <li>• Women in Action for Rehabilitation and Development (WARD) Women Org.</li> <li>• Bong County Women's Organization</li> <li>• Welekamar Rural Women Structure</li> <li>• Willing Women Initiative</li> <li>• Arise &amp; Shine</li> </ul>
Nimba	<ul style="list-style-type: none"> <li>• Biapa Vegetable Cluster Farmers</li> <li>• Dakeizee Farmers' Cooperative Nimba Community College</li> <li>• Boe Quiella Development Association</li> <li>• Women in Progress</li> <li>• Gokopa Gbundeamon and Blinon Women Agriculture Projects</li> <li>• United Women Group</li> <li>• Community Education Empowerment Program (CEEP)</li> <li>• Karnplay Gbehlay-Geh Rural Women's Group</li> <li>• Old Timer Women Organization</li> <li>• Lowkerkua</li> </ul>
Margibi	<ul style="list-style-type: none"> <li>• Future Farmer Association</li> <li>• Hard Rock Foundation</li> <li>• R V Business Center</li> </ul>
Lofa	<ul style="list-style-type: none"> <li>• Voinjama District Women for Peace and Development</li> <li>• Foyah Rural Women</li> </ul>
Montserrado	<ul style="list-style-type: none"> <li>• Larblah's Lua Vegetables</li> <li>• Mawah Farm</li> <li>• Liberia Business incubator</li> </ul>

**Figure 27: USAID FED supported women-owned business incubation**

## Component Three: Building Local Technical and Managerial Human Resource Capability

### Activity 3.1 Roll out the National Diploma in Agriculture in all Four CoEs

#### Task 3.1.1 CoEs to recruit more students to enroll in the NDA program

In January, the NDA students at Lofa County Community College (LCCC) launched the National Diploma in Agriculture Students' Union (NDA-Su) and elected its first leadership council, including a president, vice president, financial secretary, treasurer and chaplain.

In February, FED's senior vocational education officer travelled to Nimba County Community College (NCCC) to follow up on the delivery of the NDA curriculum, including the syllabi and lesson plans.



*Figure 28: NDA students launching National Diploma in Agriculture Students' Union (NDA-Su) at LCCC*

His findings were as follows:

- Twenty-one students completed registration requirements for the NDA program and are currently enrolled, while 20 additional students are being processed for admission.
- Strategies were derived to enhance the NDA practicum by grouping students into smaller cohorts so that they can be monitored properly. The NDA instructors placed students in groups of 5 or 6 and assigned each group a specific crop(s) to cultivate. This will ensure that the instructors can closely monitor the students in collaboration with FED Staff.
- Five agricultural industries or private farms were identified and selected for students' practicum sites:
  1. Karmie Farm--Sanniquellie Mah
  2. Gorsee Farm--Sanniquellie Mah
  3. FED Lowland Site--Gbedin
  4. Payee Lowland Site--Payee, Zorgbeh District
  5. CoCopa/ NRI--Sanniquellie Mah

Official classes at NCCC started during this quarter. The college conducted the NDA students' orientations, as well as both the field practical and soil-science labs. NDA students carried out land clearing and layout.

### Task 3.1.2 Strengthen instructors' capacity to teach the NDA program

Component Three technical staff began an assessment of the capacity of agriculture science instructors at the four CoEs within the community colleges. The assessment began at the NCCC, where the team examined the NDA Year II syllabi and lesson plans. The assessment process is ongoing and is expected to commence in early April for the remaining three CoEs. At the time of this report's writing, scopes of work were being developed for the recruitment of a second batch of consultants to conduct technical, hands-on training to ensure the effective delivery of the NDA Year II courses. The full report will be provided upon completion of the assessment.

Course Number	Semester I	Course Number	Semester II
NDA 231	Pasture and Forage Production	NDA 241	Farm Power and Mechanization
NDA 232	Agro-Climatology	NDA 242	Genetics and Breeding
NDA 233	Introduction to Entrepreneurship	NDA 243	Practice of Entrepreneurship
NDA 234	Leadership	NDA 244	Beef and Dairy Production
NDA 235	Industrial Crop Production II	NDA 245	Poultry Production
NDA 236	Soil Fertility and Crop Nutrition	NDA 246	Basic Fisheries Technology
NDA 237	Farm Soil Management	NDA 247	Agricultural Extension and Rural Sociology
		NDA 248	Farm Management
		NDA 249	Introduction to Animal Health

*Figure 29: NDA Year II Courses*

In March, USAID FED convened a major stakeholders meeting at the FED office in Suakoko, Bong County. The heads and other representatives of the FED-supported CoEs attended the meeting, including those from Grand Bassa, Nimba and Lofa County Community Colleges, and BWI, National Commission on Higher Education, Ministry of Education's (MOE) Bureau of Science Technology, Vocational and Special Education and USAID FED staff.

The meeting covered the status and harmonization of the NDA program, established commitment for the continuous implementation of the NDA curriculum, discussed sustainability plans for income-generating facilities and enterprises established by USAID FED, and discussed the employment of additional agriculture instructors to support the NDA program.



*Figure 30: Participants at the status and harmonization meeting of the NDA.*

The following points emerged from the meeting:

- The CoE heads instructed their financial departments to establish special accounts for their agriculture departments so that revenues generated from the enterprises and other income



sources will be credited to the department for sustainability's. They also explained that they are requesting a special allotment for their 2016/17 budgets from GoL to assist with the maintenance of the assets established by FED.

- The Director General for Higher Education asked for copies of reports detailing what exactly has been achieved through FED's work with the CoEs. He also requested an assessment report from USAID FED detailing the level of implementation and impact of the NDA program for determining a follow-up strategy in collaboration with the MoE.
- The Assistant Minister of Education expressed concern about the monitoring of the program after the closedown of FED. The Ministry does not have enough vehicles to travel to the CoEs to continue program monitoring. As such, the Assistant Minister requested that some of his staff continue monitoring visits with the FED Component Three staff before FED phases out. He also said that he is discussing with the Ministry's human resource department about placing at least 12 CoE instructors on the Ministry payroll when replacing retired teachers.



*Figure 31: Participants pose for a group photo following the NDA status and harmonizing meeting at FED's Office.*

### **Task 3.1.3 Develop skills in the use and management of the laboratory facility and laboratory equipment**

The final science lab training for lab technicians was conducted from January 5 to 8, 2016, in the science lab at the NCCC. The training was intended to build the capacity of the three NCCC staff to properly manage the soil science lab. The training was attended by the following people: Darlington N. Kilay, lab technician; Christian N. Gblankeh, assistant lab technician; Nathan S. Gono, soil instructor; J. Naurelius Boan, director of geology and mining engineering (observer); and Regina Berh, a recent graduate of the agriculture department (observer).



*Figure 32: Figure 30: Science lab training at NCCC*

The training focused on lab safety procedures, soil samples analysis, soil PH determination, soil bulk density, and how to determine major soil nutrients and elements in the soil such as nitrogen, phosphorous, potassium, calcium, and magnesium. It also covered fertilizer calculations and lime requirement recommendations.

On February 24, the soil science laboratory technician of NCCC conducted his first orientation for NDA students by explaining the usage of some of the laboratory equipment supplied by USAID FED.

On March 8, Vamuyan Traore, a FED consultant, installed a modern refrigerator in the LCCC science laboratory. The refrigerator will help store specimen needed in practical trainings and experiments.

The lab technician and FED's vocational education officer were both present during the installation.



*Figure 33: Vamuyan Traore installing a FED-donated laboratory refrigerator at the Lofa County Community College.*

## **Activity 3.2 Promote Ag Progress Day to show case their agriculture products**

### **Task 3.2.1 USAID FED will provide guidance and technical support to CoEs in conceptualizing and organizing Ag Progress Day**

Ag Progress Day is an event in which the CoEs showcase the products from their agricultural enterprises. The event, to take place at the community colleges and BWI, will act as a venue for the CoEs to sell their produce and demonstrate profitability of agriculture as a business through good quality products, both fresh and processed. FED has begun the process of engaging the CoEs administration, agriculture faculties, student leadership and other bodies about this undertaking to ensure that students understand the importance of the event.

## **Activity 3.4 Enhancing Availability of Textbooks and Reference Materials for the NDA**

### **Task 3.4.1 Procure additional textbooks**

The DAI Home Office is currently completing the procurement of textbooks to support the NDA Year II program at the CoEs. Each CoE library will receive three copies of each textbook.

## **Activity 3.5 Completing basic facilities needs to enhance learning**

### **Task 3.5.1 Rehabilitation of libraries**

USAID FED prepared tender documents for the recruitment of construction firms to implement the renovation works at the CoEs' libraries. Bidding documents and bills of quantities were placed into a requisition and are awaiting approval from the DAI Home Office.

### **Activity 3.6 Promoting Learning by Doing in Partnership with Private Sector**

#### **Task 3.6.1 Student internships with industrial players and government agencies**

Several student internship programs initiated by USAID FED in Q1 FY 2016 successfully ended this quarter with the at least one employer promising to recruit LCCC interns to fill future positions. Five LCCC students completed their three-month internship program at the Agriculture Development Alternatives (ADC) during this quarter. "All the interns were very serious and focused on their assigned tasks," said Alice Dorrer, ADC's agriculture support officer who served as field supervisor to the interns. Because of the students' impressive work during their internships, Dorrer said ADC will continue to take interns from LCCC during the organization's project life in Liberia. In addition, ADC will consider five students (four males and one female) as first choice candidates for future employment opportunities.

An additional 23 senior students of the agriculture department completed internships at the International Foundation for Agriculture Development (IFAD), ADC and the Rural Agriculture Alternatives (RAA). These interns began in September 2015 and completed their program on February 29, 2016. LCCC's agriculture department faculty organized a workshop marking the completion of these 23 students' internships on March 1. Each student was asked to give a 10-minute presentation on all activities that were performed during the three-month assignment. Paul S. Nabieu, the dean of the agriculture department, facilitated the program.

During this quarter, the agriculture department had meetings with IFAD, ADC, RAA, ACDI/VOCA, BRAC and Right and Rice Foundation (RRF) to discuss the NGOs taking on another group of 25 senior agriculture students (23 males and two females) for internships for the coming academic year. These NGOs have agreed, in principle, to accept the students, and hosted an orientation session on March 4 for a new batch of internship students.

### **Activity 3.7 Building the Capacity of CoEs to generate additional funding and to manage their finances**

#### **Task 3.7.3 Utilize various facilities at the CoEs for income generation**

During this quarter, Dr. Donald Breazeale, a business plan and enterprise development specialist from LSU, gave a sample of laboratory prices from Honduras to the CoEs to assist them in determining the prices for analyzing soil samples for farmers.

## Activity 3.8 Continuing Support to Agro-Enterprises Established in FY14/15

### Task 3.8.1 Provide STTA to assist these enterprises (c/o LSU)

LSU mobilized Dr. Don Breazeale in February as a business plan and enterprise development specialist. In February, Dr. Breazeale conducted workshops at the CoEs to assist in the development of business plans and the selection of sustainable enterprises to be supported by UASD FED during FY16. Dr. Breazeale held discussions with the administration of each institution to gather information on several issues including areas of institutional strengths to operate profitable enterprises. Participants included the USAID FED goat officers, senior registrars, farm managers, NDA classroom demonstrators, the acting dean of the business department and an instructor from the agriculture department.

Dr. Breazeale and other FED staff also visited the Big Joe Town cassava enterprise of GBCC and the vegetable enterprise at the Paynesberry campus.

In his final report, Dr. Breazeale recommended the following:

1. Implementation plans for the enterprises must be developed. The enterprises need to have a very active presence on campus or the business plans will not succeed.
2. One high-profile intervention should be implemented at the colleges before the end of the project. The colleges should be treated in similar fashion to private business or farm associations.
3. The institutions should be pushed to commit to an equitable revenue distribution plan if the enterprises are to become sustainable. To do so, FED must work with the colleges to develop revenue sharing plans.
4. FED should work to encourage use of the soils labs.
5. The role of the MoA in the CoEs needs to be better defined.
6. The institutions should determine lab testing costs and charges for public use.

Based on Dr. Breazeale's recommendations, the next phase will involve meetings including FED, MoE and the heads of the CoEs to discuss the way forward, and to sign a MoU between FED and the CoEs stating that they will financially support and maintain the enterprises and the assistance provided to them by USAID FED. If FED feels there is sincere commitment from the CoEs, FED will support the establishment of one enterprise at each of the CoEs to use the business plans developed by Dr. Breazeale and the enterprise team of the CoEs.



*Figure 34: Dr. Don Brazeale (middle) poses with Component Three Lead (far left) and farmers at the GBCC vegetables farm.*

## **Activity 3.9 Monitor and provide technical support to the establishment and operation of Advisory Committee**

USAID FED's senior vocational education officer visited the LCCC in January and met with the administration regarding next steps for the NDA program. FED staff met with the LCCC administration to discuss the establishment of an advisory committee to assist the CoEs' administration in establishing, operating, and evaluating programs pertaining to strategic management, workforce development, sustainability, and technological change.

## **Component Four: Cross-Cutting Activities**

### **Task 4.1: Communications and Knowledge Management**

#### **USAID FED Media Stories**

During the period of reporting, USAID FED continued creating and producing the FtF Radio Program, "On the Farm." During Q2, six programs (two each month) were featured on UNMIL Radio and the United Methodist Radio. The programs highlighted different project activities from the field. These programs were interspersed with success stories from program beneficiaries, the use of new technologies, and interviews with agricultural sector stakeholders.

USAID FED was featured in the following 13 media reports during Q2 FY16. Copies are available upon request.

1. Rice Business Hubs Trending in Lofa, Daily Observer , 01/03/16
2. Importers to Buy Local Rice Soon, Daily Observer, 01/22/16
3. USAID FED Support Brings Success to Women's Group, Daily Observer, 01/14/16
4. Goat Farming: A Success Story, Daily Observer, 01/14/16
5. Upland Farmers Now Profitable Vegetable Producers, Daily Observer, 01/14/16
6. Top Newspaper Names Farmer Assisted by Feed the Future, DAI Website, 01/12/16
7. Liberia FED Project as its Person of the Year, Daily Observer, 01/11/16
8. Was USAID FED Setting our Rice Farmers Up for failure?, Daily Observer Editorial, 01/27/16
9. Official Response by the Ministry of Agriculture to the Daily Observer
10. Newspaper's January 27, 2016, Editorial, Daily Observer, 02/02/16
11. MOA, USAID FED Launch Livestock Vaccination Campaign, Daily Observer, 02/29/16
12. MOA, USAID Feed the Future Launch Livestock Vaccination Campaign, Liberia News Agency, 02/28/16
13. MOA, With support from USAID Feed the Future Lunch Campaign System against animal disease, Liberia Broadcasting



## Task 4.2: Environmental Compliance

Environmental compliance is a cross-cutting aspect of USAID FED activities. Positioned to address impact mitigation of FED's activities, it supports the four value chains, and provides technical assistance on project environmental management and oversight responsibility for the implementation of the FED Environmental Monitoring and Mitigation Plan (EMMP). As part of FY16 EMMP, FED made a one week trip to Lofa County to assess the level of knowledge about on-farm environmental health and safety issues, use of inputs, and personal hygiene at several rice, goat, and cassava sites. FED staff visited and interviewed lead farmers on environmental health and safeguard methods.

### **Goat sites:**

At Siafa's village goat site in Voinjama, FED staff spoke with Thomas Duana, the lead farmer on the safe disposal of goat manure, used syringes, and the availability of safe drinking water. The farmer explained how goat manure were removed regularly and stored in a barrel for vegetables farmers to use as organic fertilizer for their crops. Safe drinking water came from the community constructed pump. Syringes used to dewormed goats were disposed of in pit latrines. This is a clear indication that farmers are following best practices in implementing their activities.

The Kundu goat site in Foya was also visited and George Fayiah, the lead farmer, explained his site was compliant with USAID FED's extension officer's guidelines for proper removal of goat manure and used syringes, and the availability of safe drinking water. The site visits indicate that USAID FED is providing the appropriate environmental information to farmers at these sites.

However, at Krukou goat site in Quardu Gboni, there is a need for training and increased sensitization for some goat farmers regarding safety, hygiene, and best practices.

### **Rice sites:**

During a site visit by FED environmental compliance staff to the Kolliema rice site, Anthony Kormah, the lead farmer explained how his site calculated the exact amount of fertilizer used per hectare to mitigate the risk of misapplying, over-applying and misusing fertilizer, which could cause significant environmental impact in both up- and lowland rice fields. Kormah also spoke about the impact of standing water in rice fields and personal protective issues on the farm. Kormah has excellent knowledge about safety and environmental issues. FED's process of interviewing farmers about environmental and safety issues ensures that farmers are aware of best management practices and will be able to continue such practices after the FED project ends.

At the Meleya lowland rice site in Sakonedu, Varlie Kamara, the lead lowland rice farmer, spoke about the impact of deforestation and shifting cultivation practices. According to the Kamara, some lead farmers may have adequate knowledge about environmental issues, but there is still a need for increased sensitization for lead farmers and farming groups.

### **Cassava site:**

FED staff interviewed Mawalo Zaysay's, the lead farmer at Help Yourself United Farmers, cassava site in Voinjama. Siting of farms was one of the issues discussed because it has great impact when the appropriate site is not selected. Zayzay emphasized the need to avoid sloppy lands when selecting cassava sites, because it causes serious land degradation. He also spoke about pest control, in which he applies local pest control method in case of any outbreak on his farm.

Angeline Kpadeh, the lead farmer at Melekortot cassava site in Saleyea, said her site practiced the same pest control methods as the Help Yourself United Farmers site. From these site visits and interviews, FED environmental compliance staff believes it is clear that some farmers have adopted the mitigation measures outlined in FED's EMMP, but there is still a need for capacity building training for farmers and extension officers to ensure environmental sustainability after FED phased out.

An assessment of the sustainability of FED's environmental activities will be conducted during the next reporting period by FED's subcontractor for environmental matters, the Cadmus Group.

### Task 4.3: Market Development Fund Management

MDF Budget Estimate FY16 Work Plan	
Component	Budget
Component 1	\$830,940
Component 2	\$1,099,593
Component 3	\$227,648
M&E	\$368,538
Obligations	\$1,302,174
FY16 Total Estimate	\$6,793,578
Q2 Expenditures	\$2,964,684
Remaining MDF FY16 Budget	\$3,828,894

CLIN No.	Activity	Projected Expenditures (US\$)
CLIN01-MDF-083	PPR Campaign-Goats	133,007
CLIN01-MDF-144	Establishment of nucleus goat breeding at CARI	2,150
CLIN01-MDF-0168	Enhancing rice post-harvest management practices	90,137
CLIN01-MDF-169	Reducing harvest and post-harvest losses	1,100
CLIN01-MDF-170	Supporting job creation through youth extension aides	14,198
CLIN01-MDF-175	Improving productivity and profitability of upland rice	78,121
CLIN01-MDF-176	Promotion of goat shelters	42,711

CLIN01-MDF-178	Expanding lowland rice production	17,025
CLIN01-MDF-181	Farmers produce vegetables during wet and dry seasons	50,333
CLIN01-MDF-191	Enhancing knowledge on improved technologies and cassava varieties	175,498
CLIN01-MDF-0195	Enhancing availability of improved cassava varieties	4,224
CLIN01-MDF-206	Development of agricultural extension curricula and information access points	9,410
CLIN01-MDF-218	Implement diet behavior change strategy	15,440
CLIN01-MDF-0220	Rehabilitate FY14 rain shelters	5,376
CLIN01-MDF-0221	TA and technology innovation for developing HVV value chains for export and local institutional markets	6,083
CLIN01-TRN-0223	TA to 25 youth agribusinesses enterprises	16,689
CLIN01-MDF-0224	Establishment of industrial cassava processing	97,000
CLIN01-TRN-227	Developing capacity of MOA staff	37,400
CLIN01-MDF-231	Equipment available and delivered to MOA for effective monitoring, data collection, reporting and storage	74,000
CLIN01-MDF-0233	Special Studies for program assessment and value chain development	49,263
CLIN02-MDF-061	VSLA training of rural farmers	163,035
CLIN02-MDF-105	Supporting BSPs to establish ESCs	81,622
CLIN03-MDF-54	Provision of appropriate equipment and facilities at COEs	50,126
CLIN03-MDF-0055	Build capacity of COEs to generate incomes from different sources	800
CLIN03-MDF-0060	Enhancing availability of textbooks, completing basic facility needs and promoting learning by doing at the COEs	75,133
CLIN03-MDF-0061	Building the capacity of COEs to roll out the NDA program, generate additional funding and manage their finances	3,480