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WEST AFRICA: John Ogonowski & Doug Bereuter Farmer-to-Farmer (F2F) Program

Final Report

SUBMITTED TO:

Mr. Gary Alex
USAID F2F Program Manager
P.O. Box 122
F:202-721-4086
galex@usaid.gov

SUBMITTED BY:

ACDI/VOCA
Angelina Tracy
Director, Agribusiness
50 F St., NW, Suite 1075
Washington, DC 20001
T: +1 202 469 6180
F: +1 202 469 6257
E-mail: atracy@activoca.org

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LIST OF ACRONYMS

| | |
|-----------|--|
| ACE | Agriculture for Children's Empowerment, Liberia |
| ADVANCE | Agricultural Development and Value Chain Enhancement, Ghana |
| F2F | Farmer-to-Farmer |
| FAO | Food and Agriculture Organization |
| FY | Fiscal Year |
| Ja-REEACH | Jamaica Rural Economy and Ecosystems Adapting to Climate CHange |
| KWO | Kukunansor Women Organization |
| LIFE | Livelihood Improvement for Farming Enterprises, Liberia |
| M&E | Monitoring and Evaluation |
| MLI BA | Malawi Market Linkages Initiative Bridging Activity |
| MoA | Ministry of Agriculture |
| PRIME | Project Reporting, Information, Monitoring and Evaluation System |
| SHOPS | Smallholder Oil Palm Support |
| WA F2F | West Africa Farmer-to-Farmer |
| USAID | U.S. Agency for International Development |
| USDA | U.S. Department of Agriculture |

EXECUTIVE SUMMARY

ACDI/VOCA and implementing partners, Winrock International and Land O' Lakes International, successfully completed the five-year (2008-2013) John Ogonowski Farmer-to-Farmer (F2F) West Africa program. This is the Final Report for the F2F West Africa program 2008-2013.

The primary WA F2F goal is to generate rapid, sustained and broad-based economic growth through short-term technical assistance in the agricultural sector. A second key program goal is to increase the U.S. public's understanding of international development assistance as well as international hosts' and program participants' understanding of U.S. foreign assistance and the American people through the personal, people-to-people exchanges that occur via the assignments.

F2F West Africa was implemented in core countries Ghana, Liberia, Nigeria and Mali and several flexible countries. The underlying strategy for our implementation of the F2F West Africa program is to raise productivity for West African farmers in a way that supported farmer access to markets or end use processors. Thus, we have focused activities on three themes: 1) improved access to export markets; 2) increased productivity that allowed profitable access to known domestic and regional markets; and 3) import substitution, particularly focused on increased local sales to multinational food processors and feed mills who normally import raw product.

These themes were consistent with the overall F2F program objectives of increasing agricultural sector productivity and profitability and strengthening agricultural sector institutions. F2F West Africa interventions were designed and implemented to complement USAID and other donor programs currently being implemented in the target countries in order to maximize the impact of short-term assignments. The original F2F core countries included Ghana, Nigeria and Mali. In year 2, Liberia was added as the core country of interventions and offers a solid case of F2F programming in post-conflict country. The core subsectors per country included:

Ghana

- Horticulture: concentration on non-traditional agricultural exports from the southern horticultural zone.
- Staple foods: concentrations on the productivity of maize/soybean rotations in Central and Northern regions and linkages between farmer-based organizations and agricultural industries to establish local production of raw product for the food and feed processing industry.

Liberia

- Livestock: concentrations on animal health, nutrition to improve food security of households.
- Horticulture: focusing on increasing the capacity of farmers to improved productivity in horticultural crops.

Nigeria

- Aquaculture: support increased productivity and marketing as well as reduce production costs for fish farmers.
- Apiculture: non-traditional agricultural products to improve income diversity.
- Staple foods: concentration on increased productivity of cassava and cowpeas.

Mali

- Small Ruminant Livestock: concentration on goat and sheep nutrition, health and breeding stock for increased production of milk and other products.
- Staple foods: support increased productivity and marketing of rice, maize, millet, sorghum and potatoes.

During the program we successfully completed 318 assignments (trips), directly assisting 17, 427 people. A total of 213 host organizations benefitted from program assistance and program volunteers donated a total of 6,185 volunteer days. With hosts providing 72,526 USD, the program leveraging a total of 3,294,392 USD. Please see the main report below for details on F2F interventions.

As part of internal learning, F2F West Africa has conducted three special studies in May – July 2013. The three studies gauged learning questions on gender integration, sustainability and impact of volunteer assistance, and what we are learning in achieving the secondary goal of the program of changing attitudes of US government assistance through the people-to-people approach to implementation. Please see Annexes 3, 4 and 5 for detailed studies.

The F2F is a Leader with Associate (LWA) cooperative agreement, and to complement core program activities ACIDI/VOCA generated six mission-funded associated awards in Mali, Ghana, Malawi, Indonesia, Jamaica and Vietnam. These associate award programs added value to our core F2F activities enabling us to engage select host organizations and program beneficiaries in deeper impact activities and leverage additional resources to spread overall F2F behavior change and information.

F2F WEST AFRICA VOLUNTEER ASSIGNMENTS SUMMARY

F2F West Africa successfully fielded 318 volunteers (6,185 volunteer days) over the life of the program (LOP).

Volunteer Targets per F2F Country and Non-Core Assignments

| Ghana | No. of Vol Target | No. of Vol Actual | Percent Change | No. of Vol Days Target | No. of Vol Days Actual |
|--------------|-------------------|-------------------|----------------|------------------------|------------------------|
| Ghana | 120 | 139 | 116% | 2,520 | 2,712 |
| Liberia | 44 | 64 | 145% | 924 | 1,464 |
| Mali | 64* | 30 | 47% | 1,344 | 497 |
| Nigeria | 84* | 82 | 98% | 1,428 | 1,468 |
| Non-Core | 12 | 3 | 25% | 204 | 44 |
| Total | 324 | 318 | 98% | 6,420 | 6,185 |

*The original targets for Mali and Nigeria were 64 and 84 respectively. In FY13 work plan, the targets were approved to be reduced to 44 and 73, respectively, due the political situation in Mali and security considerations in Nigeria, consistent with the reduction in the obligated funds for the program.

GHANA

F2F Ghana focused on the staple foods and horticulture subsectors while fielding flexible assignments working with mushroom farmers, beekeepers, poultry farmers and financial services. In total 139 volunteers trips (2,712 days) were taken to complete 149 assignments with 116 host organizations. The increase in volunteer trips from the program targets (120 volunteer and 2,520 days) is due to the close collaboration with the associate award program ADVANCE and sharing of costs, resulting in more funds available to boost volunteer trips. Additionally, the acting Country Manager participated in workshops and meetings with other USG-funded programs to advertise the opportunities of the F2F program in Ghana; which brought in additional assignments including three within the Peace Corps communities.

Volunteers supported the agricultural development by assisting organizations throughout the value chains such as farmers, farmer groups, aggregators, processors, enterprises, and financial institutions in all 10 regions of Ghana.

Summary of Volunteer Assignments in Ghana per Subsector per FY

| Ghana | FY09 | FY10 | FY11 | FY12 | FY13 | LOP | %Women Volunteers |
|--------------|------|------|------|------|------|-----|-------------------|
| Staple Foods | 9 | 17 | 13 | 24 | 22 | 85 | 14% |
| Horticulture | 3 | 9 | 9 | 4 | 15 | 40 | 18% |
| Flexible | 0 | 1 | 3 | 7 | 3 | 14 | 36% |
| Total | 12 | 27 | 25 | 35 | 40 | 139 | 17% |

GHANA, STAPLE FOODS

In the staple foods sub-sector, F2F focused on the productivity of maize, rice and soybean in the country and linkages between FBOs and agricultural industries to establish local production of raw product for the food and feed processing industry. In the first year of the program, F2F Ghana staff approached local processors, research institutions and NGOs who have a greater outreach to smallholder farmers, placing volunteers in their organizations to increase productions and strengthen their operations. Host organizations benefited from new techniques some of which include introduction of the nut sheller device that reduces labor and time to process peanuts. In FY10, ACDI/VOCA started implementation of the Associate Award, Agricultural Development and Value Chain Enhancement (ADVANCE) in Ghana. By coordinating efforts with the ADVANCE program, F2F Ghana was able to increase their outreach to smallholder farmers and farmer groups for assignments in both staple foods and horticulture subsectors. Volunteer assignments focused on strengthening these organizations and sharing agronomic techniques that could be adapted to the northern area of Ghana to support increased production.

In FY11, Ghana ADVANCE realigned its activities to complement the Feed The Future (FTF) Initiative. With this shift, F2F Ghana expanded into more districts in the northern area. Additionally, by coordinating with ADVANCE staff in the field and ensuring that they participate in the training along with the hosts allowed for further follow-up and reinforced training with the host organizations by the ADVANCE team and increasing the likelihood that the organizations and farmers adopted volunteer recommendations. Volunteer assignments continued to build organizational capacity, including assignments on business plan development and improved record keeping for farmers and farmer groups. This was added to the F2F approach to improve farmers understanding of their business and support them with the tools needed to access credit.

Following the mid-point of the program, and both USAID's and the Government of Ghana's focus on increasing production of staple foods for local and regional consumption, F2F Ghana aligned its activities and provided more volunteer assignments in this subsector than targeted. In FY12 and FY13, volunteer assignments largely focused on organizational capacity building, farming as a business, and business plan development with farmers, input suppliers, mechanized services and cooperatives in the staple foods sub-sector to improve the efficiency of support services for small holder farmers

GHANA, HORTICULTURE

In the horticultural sub-sector, F2F concentrated on enhancing the productivity and competitiveness of vegetables and fresh fruits to reach local and international markets more effectively. In the first year of the program assignments worked with large scale processors and aggregators on agriculture techniques to increase production and preservation methods to improve the shelf life of products. With the arrival of ADVANCE in the second year of the program, F2F coordinated volunteer activities to provide greater support to the citrus industry to improve marketing practices, agronomic techniques and strengthen existing farmer groups.

In FY11, F2F Ghana maintained activities on agronomic practices and capacity building with farmer groups in the southern zone and added assignments with vegetable farmers in the northern region to share knowledge on how to grow crops in the more arid climate. Following the shift of ADVANCE to the northern area to align with FTF, F2F Ghana saw an opportunity to continue to support the organizations ADVANCE was working with in the southern zone. This was two-fold, 1) it supported a variety of actors in the horticulture sub sector that needed both capacity building and training on good agricultural practices and 2) it helped to maintain the good will of the organizations (towards both USAID and ACDI/VOCA) who were no longer receiving benefits from the USAID-funded ADVANCE program. By maintaining close collaboration with the ADVANCE staff during the realignment, F2F Ghana was able to identify more potential hosts in the northern area working in vegetables in FY12.

In the final year of the program, F2F Ghana expanded to incorporate new hosts working in the horticulture sub-sector, including many who were past beneficiaries of the ADVANCE program. Assignments topics included environmental conservation through biogas systems, ICT design and development, food processing and preservation techniques, equipment maintenance and business development.

GHANA, FLEXIBLE

F2F Ghana mobilized 14 volunteers (10 percent of total volunteer trips) to support development in sub-sectors outside of staple foods or horticulture. In many cases, the potential host organizations were suggested by other donor-funded programs that F2F collaborates closely with including ADVANCE and the Bill & Melinda Gates Foundation-funded Cocoa Livelihoods Program. Volunteer efforts supported business development of input suppliers, production techniques to reduce costs and increase yields with mushroom farmers, rearing methods to maintain bee populations, incubation and processing techniques for poultry farmers, and strengthening a rural financial institution.

LIBERIA

Liberia was added to F2F West Africa as a core country in the second year of the program and the focus of volunteer assignments were in the livestock and horticulture sub-sectors. Over the life of the program, F2F Liberia successfully fielded 64 volunteer trips which included 1,464 volunteer days. F2F Liberia was able to exceed the target of 44 volunteers in large part due to leveraging support from the volunteer component of the Associate Award Smallholder Oil Palm Support (SHOPS) and USDA-funded LIFE I and II. Liberia also incorporated an internship program in the final year, which brought in young individual interested in gaining skills in the agricultural sector who were able to support volunteer logistics, coordinate efforts with the hosts, contribute to SOW development, and identify potential new hosts. In doing this, the F2F team was able to focus their efforts in finalizing SOW development and mobilizing volunteers.

Summary of Volunteer Assignments in Liberia per Subsector per FY

| Liberia | FY09 | FY10 | FY11 | FY12 | FY13 | LOP | %Women Volunteers |
|--------------|------|------|------|------|------|-----|-------------------|
| Livestock | 0 | | 5 | 6 | 11 | 22 | 14% |
| Horticulture | 0 | 2 | 5 | 3 | 14 | 24 | 13% |
| Flexible | 0 | 2 | 3 | 2 | 11 | 18 | 11% |
| Total | 0 | 4 | 13 | 11 | 36 | 64 | 13% |

LIBERIA, LIVESTOCK

F2F Liberia's objective in working in the livestock sector was to rehabilitate the industry by providing targeted volunteer assistance to develop the capacity and productivity of the subsector, so that the income of participating smallholder livestock farmers and associated industry actors increased. In FY10, livestock assignments focused on animal health and nutrition, which included a vaccination campaign in conjunction with Veterinarians without Borders where 120 cows, sheep and goats were vaccinated. In the third year of the program, F2F Liberia was approached by the Ministry of Agriculture to support their livestock restocking efforts by developing a long-term strategy. Additional volunteer activities continued to provide trainings on animal health and management at the farm level. These assignments are critical to the livestock industry in Liberia as skilled vets are rarely found in the rural areas and most of the farmers are new to animal husbandry.

In FY12, F2F Liberia expanded its outreach by incorporating a private-sector slaughter house. While the volunteer came to provide design suggestions, he also provided training to the staff and MOA slaughter house staff on hygienic principles in animal processing. The volunteer's guidance on the abattoir design influenced Land O'Lakes to provide a grant to the business to maintain the volunteer's recommendations. During the fourth year of the program, F2F Liberia also introduced assignments focused on animal feed formulation to assist farmers in finding locally sourced and low cost products to keep the animals well-nourished and healthy. In FY13, F2F Liberia collaborated with the USAID-funded Feed the Future project, Food and Enterprise Development (FED), to provide multiple volunteers to assistance in training the lead goat farmers on animal health, nutrition and management. Furthermore, two volunteer assignments were dedicated to assessing the livestock market opportunities in Liberia. Their assistance will guide local farmers in accessing community and national markets, support the MOA in their restocking strategy, and influence the direction of USG-funded programs aimed to strengthen the livestock industry.

LIBERIA, HORTICULTURE

F2F Liberia assignments in the horticulture sub-sector focused on enhancing the productivity and competitiveness of farmers, farmer groups and business producing or processing vegetables, fruit, cassava, and peppers. As a result of the civil war, farmer organizations are either extremely weak or nonexistent. Due to this, the F2F Liberia team approached other programs and organizations working with farmers and/or supporting the formation of farmer groups. This included the USAID-funded Agriculture for Children's Empowerment (ACE) program, Action for Greater Harvest, World Hope International, and 4-H Liberia. F2F Liberia also worked with government and private institutions that have a wide influence within the value chain such as MOA, Cuttington University, and Booker T. Washington Institute.

In FY10 and FY11 assignments were primarily focused on technology transfer in soil fertility, good agricultural practices, post-harvest handling and food processing. In FY12, F2F Liberia expanded to include assignments on nutrition integration, pest management, and financial management to newly formed farmer based organizations. In the final year of the program, F2F Liberia incorporated activities with youth in agriculture by supporting curriculum development on growing school gardens. The team also put more of an emphasis on business and financial management training for farmer groups and marketing opportunities while continuing to provide technical assistance in agronomy and farm management.

LIBERIA, FLEXIBLE

F2F Liberia mobilized 18 volunteers (28 percent of total assignments) to work on flexible assignments supporting rural financial institutions, fisheries and staple foods. The increase in flexible assignments in Liberia was to provide the technical assistance in aquaculture requested by USAID Liberia and strengthen rural financial institution. Over the LOP the F2F Liberia team recognized farmers need to access credit to grow their operations and, in some cases, implement the volunteer recommendations. As a result of the

close collaboration with SHOPS program activities, F2F Liberia staff was introduced to multiple rural financial institutions and encouraged these organizations to host volunteers. Many of these organizations are operated by women and often lend to women farmers, which gave the F2F Liberia team an opportunity to increase the program's support of women in the agriculture sector.

The assignments on fish production, management and processing were filled at the request of the Liberia USAID Mission and were very successful as farmers adopted the techniques to boost yields and reduce production costs.

Summary of Volunteer Assignments in Mali per Subsector per FY

| Mali | FY09 | FY10 | FY11 | FY12 | FY13 | LOP | %Women Volunteers |
|-----------------|------|------|------|------|------|-----|-------------------|
| Staple Foods | 1 | 0 | 1 | 0 | 0 | 2 | 0% |
| Small Ruminants | 4 | 11 | 10 | 3 | 0 | 28 | 32% |
| Flexible | 0 | 0 | 0 | 0 | 0 | 0 | 0% |
| Total | 5 | 11 | 11 | 3 | 0 | 30 | 30% |

NIGERIA

F2F Nigeria completed 82 volunteer trips totaling 1,468 volunteer days over the five year program. Nineteen volunteers (23%) were women. To recruit new pools of volunteers, F2F staff attended events targeting farmers, beekeepers, and extensionsists; engaged prior volunteers to provide linkages to other organizations and volunteers; and expanded outreach across institutional networks. The assignments were split relatively evenly across the three Country F2F Projects, as detailed in the table below.

Summary of Volunteer Assignments in Nigeria per Subsector per FY

| Nigeria | FY09 | FY10 | FY11 | FY12 | FY13 | LOP | %Women Volunteers |
|--------------|------|------|------|------|------|-----|-------------------|
| Staple Foods | 5 | 4 | 1 | 6 | 9 | 25 | 28% |
| Apiculture | 4 | 6 | 3 | 4 | 9 | 25 | 15% |
| Aquaculture | 4 | 3 | 3 | 9 | 8 | 28 | 23% |
| Flexible | 0 | 1 | 0 | 1 | 2 | 4 | 50% |
| Total | 13 | 14 | 7 | 20 | 28 | 82 | 23% |

The original volunteer target was to field 84 volunteers (1,428 volunteer days) in Nigeria over the five year program; however, this target was reduced to 73 volunteers per the FY13 work plan. Eight additional volunteer assignments were reallocated from Mali to Nigeria in FY13, following the suspension of F2F activities in Mali due to the instability in country.

Security concerns in northern Nigeria and parts of the delta area of southern Nigeria led to travel bans and contributed to slow implementation in FY10 and FY11. To address this constraint, F2F Nigeria re-focused the geographical scope, directing activities primarily within the middle belt and southwestern areas of the country. The program also explored other opportunities to accelerate the pace of programming despite insecurity, such as fielding volunteers in pairs, working more with service providers, and providing training of trainers (TOT) to agricultural extension agents, universities, and applied research institutions that would be able to replicate the F2F trainings with individuals across the country in the future.

Despite the challenges and shifts within the program, F2F Nigeria exceeded the original target for total number of 1,428 volunteer days.

FLEXIBLE NON-CORE COUNTRIES

A total of three volunteers were mobilized to non-core countries. In FY09, the Jamaica Mission requested a volunteer to provide organizational capacity building to the Jamaica Cocoa Farmers Association. This assignment helped to pave the way for the Associate Award Jamaica Marketing and Agriculture for Jamaican Improved Competitiveness (MAJIC), which supported marketing systems, strengthened production and processing, improved financial operations for the cocoa value-chain.

In FY10, ACIDI/VOCA fielded one non-core country flexible assignment to Haiti. The assignment was requested by the ACIDI/VOCA Haiti MYAP team and the Specialty Coffee Association of America (SCAA) in support of the coffee value chain. In the following year, a volunteer was mobilized to Peru at the request of two cocoa-farming cooperatives through a private industry partner, TCHO. The volunteer worked with members of both cooperatives to support to strengthen the groups and support the member equity and capitalization.

F2F WEST AFRICA OUTPUTS SUMMARY

In F2F West Africa there were 318 volunteer assignments (trips) completed, 98 percent of the program target. We have reached 96 percent of the original target for volunteer days. These changes are in line with the program obligation that was reduced to 94 percent of the original scope.

The political situation in Mali and security concerns in Nigeria have proved it difficult to reach the intended numbers for volunteer assignments and volunteers days; despite exceeding program targets in Ghana and Liberia. In West Africa, we also did not field as many non-core volunteer assignments due to the demands for these within the region, particularly in Liberia.

GHANA

F2F Ghana volunteers assisted 9,544 individuals (41 percent women) from 118 host organizations, the majority of whom were farmers groups. Volunteers provided 599 major recommendations to these host organizations, to help them make key improvements to their profitability, organizational effectiveness, and natural resource conservation. 46 volunteer assignments (15 percent) were focused on technology transfer; 67 assignments (22 percent) focused on organizational development; and 33 assignments (11 percent) focused on business/enterprise development. The table below summarizes outputs by host type.

Summary of host data in Ghana

| Type of Host | # of hosts |
|--|------------|
| Cooperatives and Associations | 59 |
| Individual Private Farmers | 25 |
| Other Private Enterprises | 25 |
| Non-Profit, Public Interest NGOs | 7 |
| Public and Private Education Institutions | 1 |
| Rural Financial Institutions | 1 |
| Public Sector Agencies | 0 |

With 118 percent of the originally planned volunteer assignments completed, F2F Ghana achieved 365 percent of the target for persons assisted (9,544 against a target of 3,600) and 125 percent of the target number of major recommendations. The program exceeded the proposed 25 percent female beneficiary target, with women representing 41 percent of persons assisted.

LIBERIA

F2F Liberia volunteers assisted 3,480 individuals (41 percent women) from 53 host organizations, the majority of whom were farmer cooperatives and associations. Volunteers provided 338 major recommendations to these host organizations, to help them make key improvements to their profitability, organizational effectiveness, and natural resource conservation. Thirty-seven volunteer assignments (58 percent) were focused on technology transfer; 12 assignments (19 percent) focused on organizational development; and nine assignments (14 percent) focused on business/enterprise development. The below summaries outputs by host type.

Summary of host data in Liberia

| Type of Host | # of hosts |
|--|------------|
| Cooperatives and Associations | 27 |
| Individual Private Farmers | 10 |
| Other Private Enterprises | 3 |
| Non-Profit, Public Interest NGOs | 7 |
| Public and Private Education Institutions | 2 |
| Rural Financial Institutions | 5 |
| Public Sector Agencies | 1 |

With 145 percent of the originally planned volunteer assignments completed, F2F Liberia achieved 364 percent of the target for persons assisted (3,480 against a target of 1,320) and 192 percent of the target number of major recommendations. The program exceeded the proposed 25 percent female beneficiary target, with women representing 41 percent of persons assisted.

MALI

F2F Mali volunteers assisted 985 individuals (37 percent women) from 19 host organizations, the majority of whom were farmers groups. Volunteers provided 120 major recommendations to these host organizations, to help them make key improvements to their profitability, organizational effectiveness, and natural resource conservation. Nineteen volunteer assignments (63 percent) were focused on technology transfer; nine assignments (30 percent) focused on organizational development; and two assignments focused on business/enterprise development. Please see the table below for host type assisted.

Summary of host data in Mali

| Type of Host | # of hosts |
|--|------------|
| Cooperatives and Associations | 12 |
| Individual Private Farmers | - |
| Other Private Enterprises | 2 |
| Non-Profit, Public Interest NGOs | - |
| Public and Private Education Institutions | - |
| Rural Financial Institutions | - |
| Public Sector Agencies | 5 |

With 47 percent of the originally planned volunteer assignments completed, F2F Mali achieved 51 percent of the target for persons assisted (985 against a target of 1,920) and 47% of the target number of major recommendations. The program exceeded the proposed 25 percent female beneficiary target, with women representing 37 percent of persons assisted. This was accomplished by working with a large number of women's groups working within the target sectors.

NIGERIA

F2F Nigeria volunteers assisted 4,970 individuals (36 percent women) from 66 host organizations, the majority (55 percent) of whom were farmers groups or private enterprises. Following the strategy to target TOT, 19 hosts (29 percent) were NGOs, education institutions, or government agencies with the mandate

to provide training and/or services to agriculture sector stakeholders. Volunteers provided 328 major recommendations to these host organizations, to help them make key improvements to their profitability, organizational effectiveness, financial services, and natural resource conservation. The vast majority of assignments (62 assignments; 77percent) were focused on technology transfer, with the remaining assignments focused on organizational development, business/enterprise development, and financial services. The table below summaries host type.

Summary of host data in Nigeria

| Type of Host | # of hosts |
|--|------------|
| Cooperatives and Associations | 21 |
| Individual Private Farmers | 9 |
| Other Private Enterprises | 15 |
| Non-Profit, Public Interest NGOs | 11 |
| Public and Private Education Institutions | 3 |
| Rural Financial Institutions | 2 |
| Public Sector Agencies | 5 |

F2F Nigeria made a specific effort to target women and to invite multiple service providers to participate in volunteer assignments. This enabled the program to exceed the original targets for number of hosts supported (66 against a target of 63), number of persons assisted (4,970 against a target of 2,520), and percentage of women beneficiaries (36 percent compared to target of 25 percent).

FLEXIBLE COUNTRIES

F2F West Africa flexible countries completed three volunteer assignments (trips) totaling 44 volunteer days over the five year program. Flexible assignments took place in Jamaica, Haiti and Peru. Assignments addressed a variety of agriculture opportunities in each of the flexible countries improving business services, marketing, and organizational strengthening. The flexible assignment in Jamaica was made at the request of the mission. The assignment contributed to ACDI/VOCA getting an associate award focusing on climate change integration in Jamaica. The flexible assignment in Haiti was to leverage the ACDI/VOCA food aid program in the country. Finally, the assignment in Peru was as a result of the private sector focusing on specialty crops reaching out to USAID to request a volunteer assignment.

F2F WEST AFRICA OUTCOMES / IMPACT SUMMARY

GHANA

F2F Ghana completed final impact surveys with 81 percent of the participating host organizations to evaluate program results. The remaining 22 hosts had either closed their operations, the most relevant individuals were no longer in the community, or the host was simply unavailable at the time of the surveys.

F2F Ghana made a concerted effort to expand the outreach of volunteer assistance by including large associations and several input and services suppliers as possible. As a result the program impacted over 350,000 individuals both directly and indirectly. The high volume of increased sales in the table below is due in large part to the close relationship with the ADVANCE program in staple foods allowing the F2F hosts in ADVANCE communities to access more support and services. The F2F Ghana Horticulture project primarily focused on tropical fruits for export and through volunteer assistance with individual farmers, associations, and SME exporters, sales increased by \$6.1 million.

F2F Ghana Outcomes

| F2F Ghana Subsector | Total beneficiaries | # of recommendations adopted | Increased sales | Increased income | # of new products/services | Increased membership |
|---------------------|---------------------|------------------------------|-----------------|------------------|----------------------------|----------------------|
| Staple Foods | 212,965 | 272 | \$12,591,598 | \$521,052 | 28 | 2,559 |
| Horticulture | 16,482 | 123 | \$6,123,531 | \$986,538 | 12 | 661 |
| Flexible | 121,437 | 27 | \$208,139 | \$18,162 | 3 | 25 |

Examples of the impact made in Ghana through volunteer technical assistance can be found below.

STAPLE FOODS

- Kukuransor Women's Group includes women farmers who initiated the organization to provide micro credit opportunities for the members. Through organizational and financial management training provided by the volunteer, the group has not only become stronger and increased membership by nearly 400 (998 current active members), they were also able to increase overall sales by \$12,417. This increase in sales was due to the low cost agronomic practices that Gerald Nolte shared with the women as well as their ability to follow his recommendation to secure a tractor and increase their area of production. Mr. Ernest Asoi, the coordinator of the organization said *"because of what the other people are seeing (more are joining)...now (we have) almost 1,000 women and 1,000 acres of soy beans. That means that several households are benefiting."*
- Agricare Limited is a local company animal feed company who produces on average 4,000mt of maize and soya for the local and regional livestock and poultry farmers. Through the volunteer assistance provided on improving their branding and marketing plan, Agricare has been able to increase their sales by \$380,780 and annual company income by \$448,552.
- Savannah Integrated Rural Development Aid is a non-profit organization aimed at supporting small scale farmers in the northern area of Ghana. Volunteers trained their farmers and staff on good agricultural practices and improved marketing techniques. A third volunteer trained the NGO's staff on organizational management and business development to help SIRDA expand. Since the assignments SIRDA has continued to provide agronomic training to their farmers, added 25 farming associations in their programs and increased revenue by \$149,606. *"We needed someone to help us with a strategic plan"*, Said Halima Saeed Director of SIRDA, and the *"impact we would say (is that) we were able to solve our problems because of the volunteer (recommendations)."*

HORTICULTURE

- The Federation of National Tomato Growers Association (FTNGA) supports some 500 members (30 percent women) farmers in the Brong Ahafo Region. As a service to their farmers, the organization brought in a volunteer to provide training on low-cost organic pesticide usage, proper application methods for chemical inputs, and integrated pest and disease management. Many of the individual farmers applied the techniques provided in the training and on average have reduced their fertilizer and pesticide costs by \$290 and increased their harvest by 125 boxes (average total increase of \$14,800 or \$118 per box).
- After the volunteer's assignment with the Northern Region Vegetable Union, the host piloted the use of mulch on their 1.5 acre cabbage plots. Although the cost of production was higher in 2012, using the mulch and compost on the same plots yielded a profit of GH¢758.50 (US \$379.25). According to the farmers the compost and manure made the cabbage superior to previous yields and the farmers received higher prices. In addition, demonstration farms of this technology attracted new members to the organization. Today it nearly doubled and stands at 1,700 members with more than 40 percent of women.

FLEXIBLE

- Become Youth Association worked with multiple volunteers to improve their mushroom production and organizational development. By following the volunteer's recommendations on low-cost production techniques the youth association has been able to increase their annual sales by \$171,444. While others see the success that the group is having with mushroom cultivation and economic opportunities for young peoples, membership has also increased to 600 (350 additional members).
- Jaksally Apex Savings and Loans Institution needed support in financial management and lending practices to expand their micro lending to more small scale farmers in the northern region of Ghana. Their enthusiastic response to the volunteer training and quick adoption of the recommendations resulted in an increase in lending by \$153,450 only one month following assignment in July 2013.

LIBERIA

F2F Liberia surveyed 39 host organizations to evaluate program impact. F2F Liberia benefitted 10,912 individuals, majority of who are members of formal and informal organizations as well as their family members. The overall outcomes are listed below.

F2F Liberia Outcomes

| F2F Liberia Subsector | Total beneficiaries | # of recommendations adopted | Increased sales | Increased income | # of new products/services | Increased membership |
|-----------------------|---------------------|------------------------------|-----------------|------------------|----------------------------|----------------------|
| Horticulture | 6,832 | 79 | \$416,334 | \$244,840 | 4 | 2,704 |
| Livestock | 1,871 | 38 | (1,134,567) | \$13,830 | 22 | 398 |
| Flexible | 2,209 | 41 | \$118,779 | \$83,179 | 3 | 312 |

F2F Liberia impact indicators for livestock subsector report negative impact but this is largely due to an outlier host organization Connex & MD Sow Enterprise. This host organization is a perfect example of an organization that is considered a successful enterprise locally that has grown as an organization due to F2F assistance (as reflected by a grant from the US Government). But with the impact numbers that reflect otherwise. Since baseline, the organization sold its livestock to make an investment in a slaughter facility. Substandard materials and equipment were purchased from China for the work and a Chinese firm was contracted. The work was poorly done. When the F2F volunteer Ronnie Stratton came to assist the company, the volunteer pointed out a number of flaws in the design of the building and listed 53 things that needed to be done right if the slaughter facility were to be built to international standards. After the assignment, the Ministry of Agriculture also sent inspectors to the construction site. At this point the slaughter was about 75 percent completed. After assessing the facility, the Ministry disqualified the design as substandard and ordered that the building be demolished. The building is currently being demolished, and a new one of an approved design that incorporated the volunteer's recommendations is being built supported by a grant from the U.S. Government through an American NGO working in Liberia. This grant came about when the volunteer's recommendations were presented to this U.S. NGO.

Despite some negative impact stories in Liberia, there have been notable ones. We have used the Most Significant Change methodology to capture these stories as expressed by beneficiaries themselves.

LIVESTOCK

Robert K. Tellewoyan is part of the Maher Agriculture project, engaged in livestock, received assistance from F2F was on organizational development. The K-Maher project has improved their record keeping and management and they are better able to realize profit and loss.

K-Maher through their board chairman Dr Liberty made a request to ACDI/VOCA to provide them with a trainer to come and help on the livestock farm. Their objective was that they want to use the farm as an institution for Bomi County and Liberia as a whole so that youth who are interested in agriculture could come and have some training. ACDI/VOCA has been helping them by providing volunteers.

The training enabled K-Maher to control their finances and they say that is the greatest thing that they have done, "because we didn't know how much coming in or going out and today at least we can control". The training broadened their understanding of finances and record keeping, "we didn't know about any of these things all of our things were scattered we had no record the accountability was not there at all but at least ACDI/VOCA came and really teach us all of those things and today we are really living by it". The volunteer provided them some books on how to take records, how to do inventory and since then once every month they do their inventories and they know whether they are operating profitably on the farm.

HORTICULTURE

4-H-Liberia received four volunteer assignments in organizational development, with major impact on partnership expansion, resource mobilization, increased membership and collaboration with international organizations, increasing the visibility of 4H-Liberia.

4-H Liberia started to work with F2F in 2011. After the assignment with Trent McKnight focusing on strategic leadership and development, 4H-Liberia has grown and currently is working to establish a National Agriculture curriculum that will be used in all schools in Liberia. F2F supported this growth with a recent volunteer assignment on curriculum development. As told by Umaru Sheriff, the national executive 4-H director, "this is because the schools in Liberia do not have an agricultural curriculum for schools they have general science only with just small bit of agriculture". Umaru believes that "if we must encourage children to have passion for agriculture I think they need to do it from 1st grade all the way to high school. Based on what they would have learned they are able to extend that their knowledge to do it in the future".

Through F2F, 4-H developed the partnership with World Food Programme (WFP) to support the work of 4H-Liberia in schools. They also have another partnership that they got through the F2F, Ralph C. Norman Foundation who is also supporting 4H- Liberia. The F2F volunteers have linked 4H-Liberia to partners because they have ideas on how to link people so it was through that 4H- Liberia has a growing partnership.

Umaru shares that "when you get partnership it's not just to be on the table the partnership must be able to produce the objective of a partnership. So 4H- Liberia is interested in agriculture and our partners are interested in agriculture so when the partnership comes together the children of Liberia should benefit so what they are benefiting is of interest to me".

FLEXIBLE

ODAFARA is a nonprofit working with farmers in Liberia. They received assistance in technology transfer with impact in improving youth participation in agriculture.

In 2011 Joseph Kettor from ODAFARA met with ACDI/VOCA and discussed how ODAFARA is trying to engage youth in agriculture. ODAFARA received two volunteer assignments. One was Dr Miller who trained them on animal production. Livestock farmers from Montserrado and Margbi were brought together and the farmers were trained. Then they had a three-month volunteer to help them with market promotion for agriculture and youth engagement through an internship program.

Joseph mentions that he likes "to develop the youth in agriculture, the young people we took from the Counties who were doing nothing but causing trouble they are now medics moving around with livestock medics bags and they are employed because it so happened that we gave them that training. These are the people that tell you "I was nothing!! I was just causing trouble I didn't even know, now I carry my syringes and medicines", they start describing the medicines to you, "I go to places I treat the pigs, goats etc." This story tells of the role ODAFARA is playing in the development of human beings and life in general. He notes that "of what use is anybody if your life does not make another person better off what contribution what history what legacy do you leave so that is why it is important to continue doing". ODAFARA gave credit to Dr Miller F2F volunteer who trained the young men to be livestock officers in their communities and be able to earn some income.

He believes that F2F has an impetus to people's lives, "F2F volunteer brought in a technology, new ways of doing things, people then must improve you can't just remain stagnant, things are changing, the world is changing day and night we got to move along". So the ideas and knowledge the volunteers brought have helped ODAFARA. "Am sure there are a lot of opportunities in the country and around the world but unless you are connected you will not get them you will not make use of them you will not know that they exist. ACDI/VOCA is a friend in that particular area they made that connection for us and made that collaboration program".

MALI

F2F Mali succeeded in increasing sales by \$3,048,600 and incomes by \$229,170, ultimately benefitting 55,185 individuals overall. Highlights of major outcomes by subsector are included in the table below:

F2F Mali Outcomes

| F2F Mali Subsector | Total beneficiaries | # of recommendations adopted | Increased sales | Increased income | # of new products/services | Increased membership |
|--------------------|---------------------|------------------------------|-----------------|------------------|----------------------------|----------------------|
| Staple Foods | 3,845 | 7 | \$2,075,2041 | \$35,554 | 4 | 55 |
| Livestock | 51,340 | 52 | \$973,396 | \$193,626 | 12 | 43 |

As a result of the coup d'état and subsequent program suspension, F2F Mali was not able to meet targeted outcomes. However, utilizing only 47 percent of originally planned volunteers, the program exceeded the target for total number of beneficiaries by 27 percent and was able to reach 79 percent of the target for increased annual gross sales, and 80% of the target for number of new products and services.

F2F Mali field staff made an effort to ensure maximum spread effect and wide dissemination of volunteer information for each volunteer assignment, foremost by involving multiple relevant actors to develop SOWs, participate in assignments, and assist with follow up. Local government authorities, government extension agents, and local service providers attended volunteer trainings –both to further their own skills on specific topics and to establish or strengthen relationships between them and beneficiary farmers. These trained agents then apply what they have learned as they support other farmers in the future. SOWs and EOAs are shared with local authorities, who also assist with outreach and further dissemination of training materials and information after the assignment. Volunteer recommendations and training materials are regularly shared and translated into local language for further use and distribution.

Below you will find stories of impact per subsector in Nigeria.

STAPLE FOODS

In staple foods, the two F2F hosts achieved a combined increase in sales almost 15 times over and an 88% increase in incomes.

- Faso Kaba Seed Company has experienced extraordinary success since it received its first F2F volunteer. Winrock sent two volunteer experts to provide training and technical assistance to Faso Kaba staff on improved seed production practices and the use and maintenance of new seed processing equipment, and to introduce hybrid seed production, which can result in a 25-40% increase in yields for maize and sorghum. Now that Faso Kaba is effectively using the new equipment and adopting the technical and business management recommendations made by the MAVEN volunteers, the company's processing operations have become more efficient and quality has improved. In 2012, Faso Kaba produced and sold more than 1,000 tons of seed --ten times what the company sold when it first started-- at 800 CFA (\$1.60) per kg (as compared to 500 CFA per kg

¹ F2F Mali staple foods subsector host Faso Kaba Seed Company also received volunteer support from the Mali Agriculture Value Enhancement Network (MAVEN) associate award.

that the company earned in previous years). Conducted 300 farm demonstrations and 10 field days, attended by 3,000 farmers. Trained 150 stockists to sell seeds. 350 MT of certified seeds produced and sold (double the original target of 170 MT). Connected directly with contract growers, scientists, national seed service. Sales increased from \$338,292 in 2010 to \$2,178,516 in 2012.

- Organizational development training for Kafara Farmer's Cooperative has resulted in a 125% increase in membership (from 44 to 99 members) –including the addition of men to the group. The Coop's leadership states, *"Since the training, more people have wanted to be part of the Cooperative because it functions well, and people see the value in it."* Cooperative members now understand how a cooperative is supposed to function, and the Cooperative has developed a strategic plan which is reviewed each month. For the first time, members are paying membership dues.

LIVESTOCK

Hosts in the livestock subsector increased sales by \$973,396 (15%) and incomes by \$193,626 (11%). Beneficiaries have increased their herd size, reduced animal health issues, and are now able to drink milk daily. In addition, some groups are also benefiting from using manure to fertilize crops.

Examples of host-level impacts include the following:

- The Cooperative for the Promotion of Breeding in the Commune of Ouelessebougou received support from two volunteer assignments to improve and diversify milk production. Members learned how to make improvements to milk quality and how to produce three new milk products. As a result, the Cooperative has increased sales from \$90,000 to \$411,968 (358% increase) and income from \$27,500 to \$123,509 (78% increase). The president of the Cooperative states, *"We learned that when milk begins to decompose, you should make cheese so it doesn't spoil. The F2F training taught us how to use something we would have otherwise wasted. This is especially helpful for us during the rainy season when we have an abundance of milk to sell."*
- As a result of training and assistance on small ruminant production and animal husbandry, Dladie Farmers Cooperative now sells at least 400 heads of small ruminants annually (compared to a baseline of 150). This has resulted in \$23,000 in increased sales (a 61% increase). The Cooperative is now able to provide credit to members; 18 people received loans in 2012.
- Extension agents from the Regional Directorate of Animal Production and Industries (DRPIA) of Segou have improved their skills in small ruminant husbandry and are actively applying new technologies and practices for fattening, animal health, nutrition, etc. in their work with hundreds of smallholder farmers. *"Thanks to the F2F training, when I go support farmers, I have more knowledge on feeding animals that improves nutrition. The advice has a positive impact on the health of people's animals and leads to better nutrition and meat or milk production,"* explains one DRPIA agent.

NIGERIA

F2F Nigeria assignments impacted 1,843,795 beneficiaries overall. Highlights of major outcomes by subsector/Country F2F Project are included in the table below:

F2F Nigeria Outcomes

| F2F Nigeria Subsector | Total beneficiaries | # of recommendations adopted | Increased sales | Increased income | # of new products/services | Increased membership |
|-----------------------|---------------------|------------------------------|-----------------|------------------|----------------------------|----------------------|
| Staple Foods | 1,551,815 | 57 | 242,949 | 99,287 | 17 | 7,931 |
| Apiculture | 199,820 | 56 | 643,308 | 246,812 | 28 | 295 |
| Aquaculture | 92,160 | 69 | 6,686,910 | 1,914,737 | 38 | 1,642 |

F2F Nigeria significantly exceeded the following original targets:

- Increase in membership by 9,868 individuals (compared to a target of 301)
- \$7.5 million increase in annual gross sales (compared to a target of \$5,040,000)
- \$2.2 million increase in net annual incomes (compared to a target of \$907,000)
- 83 new products and services (compared to a target of 25)
- Increase by 10,400 hectares in area under improved production technologies (compared to a target of 504 hectares)
- \$930,384 increase in agricultural loans (compared to a target of \$453,600)

F2F Nigeria identified and leveraged the presence, capacity, and efforts of a number of regional and state-based organizations with outreach to rural farmers and cooperatives/associations. This targeted strategy facilitated wider dissemination of volunteer recommendations and impacts, and ensured sustainability and effective follow-up. In addition, F2F Nigeria fielded two volunteers to help develop videos which host organizations can use in future trainings with their clients. This enabled volunteer information and impacts to continue to spread beyond the duration of the program.

Below you will find stories of impact per subsector in Nigeria.

STAPLE FOODS

Hosts in the staple foods sector increased annual sales by \$242,949 and annual incomes by \$99,287. Bolstered by the training provided by F2F volunteers, farmers gained confidence and are sharing what they have learned with others. One beneficiary from the Fadama III project indicates, *“The F2F assistance equipped me to be able to adopt timely planting, use of insecticides and herbicides. It also exposed us to modern planting methods and use of improved seeds. My farm now serves as a model in the neighborhood where other farmers come and copy and learn which they are also applying in their farms.”*

As a result of tangible improvements in production capacity, management, and access to credit, several hosts experienced a large boost in membership. For example, the All Farmers Association of Nigeria increased membership by 4,771 (from an original membership base of 3,000); the Nigeria Soybean Growers Association more than tripled its membership with 1,700 new members; and the Dass Women Multipurpose Cooperative Union went from 62 to 858 members. Host improvements also translated to increases in clients/suppliers and employees.

Examples of impacts for specific hosts include the following:

- NFI Yam Farmers in Kachia –including 3,600 members of several different cooperative societies– learned improved techniques for processing yam. Rural households found the newly processed yam flour to be a better alternative to the locally-processed product. In turn, this led to an increased number of yam suppliers and consumers of yam flour (from 42,000 to 58,800 people associated with this host), as well as a 118% increase in sales –from \$4,690 to \$10,242.

Furthermore, F2F Nigeria efforts to increase access to credit resulted in impacts for microcredit organizations as well as farmers groups. Hosts increased the number of loans by 2,121 and value of loan portfolio by \$930,384. Specific host impacts include the following:

- After participating in F2F training, Keffi Microfinance Bank increased its loan clients from 413 to 1,426 (a 245% increase), translating to \$955,542 in additional loans in the last year alone. F2F training enabled Keffi staff to evaluate proposals as well as help loan applicants prepare proposals to access credit. F2F training also increased awareness of product diversification (e.g., lending specifically for dry season farming), which the bank did not support prior to the F2F assignments.

- Seven of the ten farmers' cooperatives/associations who participated in F2F microfinance and organizational development trainings alongside Keffi Microfinance Bank have submitted proposals for agriculture loans and succeeded in obtaining \$78,025 in credit. Keffi acknowledges a 100% repayment history so far from the seven groups. One beneficiary testified, *"Our members are no longer scared of bank loans but are rather confident to apply for additional financing. We have been providing training for other members and educating them on aspects of business financing. We are looking out for more opportunities like this to help our community."*
- As a result of F2F assistance and training on pre-and post-loan training for beneficiaries and efficient loan monitoring, the Country Women Association of Nigeria (COWAN) increased its loan portfolio from 1,430 loans (\$56,688) to 2,500 loans (\$82,166). Clients are now meeting their repayment schedules and returning for repeat borrowing.

APICULTURE

F2F achieved considerable impacts on hosts in the apiculture sector. With the adoption of improved, modern beekeeping practices and better quality honey processing, annual sales for beekeeping hosts have increased by \$643,308 and annual incomes increased by \$246,812. In addition, hosts are collectively providing 28 new products and services.

Examples of host-level impacts include the following:

- A & Shine International Limited, popularly known as Honey Couple, has made dramatic organizational development and management improvements, following the advice of F2F volunteers. The business has earned the respect of competitors, regulators, and other industry stakeholders, and the owners have received awards and recognition from the government and local media. A & Shine is now producing and selling four new honey-based products, applying branding standards and pricing tips suggested by a volunteer. In the last year alone, the business has achieved a \$300,000 increase (86%) in annual sales and 220% increase in net annual income.
- F2F assistance deepened the knowledge of beekeepers working with the Young Men Christian Association, who now understand how producing quality honey will enable them to compete with imported brands and secure good prices. Since the F2F training, the beekeepers increased honey production from 8.5 to 13.3 tons. The group is now increasingly identified as a trusted source of quality honey; this has led to a 56% increase in sales (from \$64,873 to \$101,364) and a 62% increase in income (from \$16,218 to \$26,396). The assistance also helped strengthen the relationship between beekeepers; beekeepers now network and support one another. Membership of the group has grown by 64% (from 45 to 74 members).
- As a result of F2F training, Igbalode Beekeepers Association is now the leading beekeeping cooperative in Oyo State, serving clients with consistent, high quality honey, as well as five other new hive products. The Association increased sales from \$6,750 to \$10,800 (a 60% increase) and expanded its customer base by 281%. The president of the Association indicates, *"The impact of F2F assistance to our professional lives came in four folds: increased honey production and enhanced potential for expansion of activities, development of new products and cost effective techniques for beekeeping, the group is more recognized now than before, and increased market access."*

AQUACULTURE

In the aquaculture sector, F2F hosts have improved quality of aquaculture products, introduced 38 new products and services, and in turn, achieved a \$6.7 million increase in annual sales and \$1.9 million increase in annual incomes.

For example:

- Just one year after receiving F2F assistance, Habro Farms reduced its fingerlings mortality from 70% to 5%, met its annual production plan (to produce 510 tons), and expanded its hatchery operations from 240,000 to 1,200,000 fingerlings. The company also adopted new feed formulations (following volunteer recommendations), and in turn, saved 50% in feed costs. These changes resulted in a 25% increase in both annual sales and income. Proud of her accomplishments, the owner states, *"F2F assistance has improved so many things. The farm has been able to reduce cost which has reflected in our income. I have been able to share the knowledge gained from the training with my clients and customers."*
- Following F2F assistance, Fishouse Aquaculture increased production of catfish fingerlings and juveniles by 95% and also successfully hatched all-male tilapia for the first time. Before the volunteer assignments, the company was producing 600,000 catfish fingerlings yearly with a 60% mortality rate. Presently, it produces 2,400,000 catfish fingerlings yearly with 5% mortality. As a result, Fishouse is now earning \$300,800 in annual income from sales alone (representing a 290% increase). In addition, the company built a model fish farm with a modern training facility and is now providing embedded business development services to its customers, resulting in \$25,000 in additional income each month. Both Fishouse and Habro Farms are located in Kaduna and have significantly improved access to fingerlings for thousands of Nigerian families in the northern area of the country.
- The Lagos State Catfish Farmers Association (LASCAFA) received F2F assistance to improve hatchery operations, shelf-life of smoked fish, and marketing techniques for fresh fish. Members implemented volunteer recommendations to monitor water quality, improve recordkeeping, and review marketing options. Most of the 1100 members of the association now smoke and package their fish, and they have begun to sell products to retail chain stores, achieving a 133% increase in annual sales.

F2F WEST AFRICA COUNTRY SUMMARIES

GHANA

GHANA, STAPLE FOODS

The objective of the F2F Ghana Staple Crops Project was to enhance the competitiveness of staple crops producers by providing targeted volunteer assistance to improve farm management, production yield, product quality, post-harvest handling, farmer-based associations management and establish market linkages. These interventions contribute to the Ministry of Agriculture's mission to promote equitable and sustainable agricultural growth and development aimed at providing food security, reducing rural poverty, improving balance of payment and consolidating democracy in Ghana.

The F2F Ghana Staple Foods project worked very closely with the USAID-funded, Feed the Future Agriculture Development and Value Chain Enhancement Program (ADVANCE), especially in the last two years of the program. The assignments completed complement the ADVANCE project's contributions to the objectives of the Ghana Feed the Future Strategy, focusing on smallholders working in maize, soya and rice in the North of Ghana.

Over the five-year program, F2F Ghana fielded 85 volunteers who completed 91 staple crops assignments with 74 hosts, directly supporting 5,856 individuals representing staple crop farmers, processors, federal and state government programs, and others.

Host organizations benefited from learning new technologies, one of which was the introduction of a universal nut sheller device that increases the cost effectiveness of peanuts. Peanuts farmers in Ghana shell their peanuts manually and before the introduction of the sheller, farmers could barely crack five tons per month with the manual system. The nut sheller device is capable of processing 15 tons of peanuts per month. With a few manual adjustments the machine is capable of shelling winged beans, dried coffee and sheanuts as well, make it a very versatile piece of equipment. The universal nut sheller adds value to these crops and improves the lives of those who use this labor-saving device.

In the staple sector, F2F worked to build the capacity of ADVANCE actors in its operational areas. This included farmer cooperatives, aggregators, input dealers and nucleus farmers. These actors were trained on farm management and record keeping, inventory management, business plan development and cooperative management. Kharma Farms, a nucleus farmer working with the ADVANCE program, received business plan development assistance from a F2F volunteer and as a result was able to secure a loan of GHC145,000 from Stanbic Bank using the business plan. This nucleus farmer also purchased two tractors, one using the bank loan he received and the other in the form of an in-kind grant from the ADVANCE Program. With the additional tractor, Kharma Farms increased its soybean farm size from 15 to 60 acres. He also increased the number of outgrowers, smallholders, with whom he worked, from 296 to 1,300. This increase also created three jobs with Kharma farms, a secretary and two field agents, to help manage the growing number of outgrowers these tractors allow Kharma to reach.

Historically record keeping was widely absent among farmers in Ghana. Nucleus farmers could not track their outgrowers, expenditures, inputs usage, etc. A major focus in 2012 and 2013 for the F2F and ADVANCE projects was record keeping trainings provided by volunteers to ADVANCE actors, which proved to be eye-opening and very valuable. In interviews with the farmers who received record keeping trainings the farmers are stating that they have begun keeping records of their farming operations. They can now more easily track their income and expenditures based on these records kept. This has helped them to plan to minimize costs and retain more profits by responsibly expanding their tractor and threshing services to additional farmers in nearby communities who do not currently have access to these services.

The F2F volunteers also worked with the ADVANCE program nucleus farmers on outgrower management, which greatly fed into improving the work done on the ADVANCE project. These nucleus farmers are now able to assess their outgrower operations and improve their percentage of repayments from outgrowers. With these trainings the neucleus farmers involved in the production of staple crops are able to reach more farmers to provide valuable and necessary mechanization and information on GAPs.

Remaining challenges for the subsector

The greatest challenges in the staple are in the area of marketing, post-harvest handling and good agronomic practices. Due to financial constraints, farmers often do not have the resources required to implement some recommendations and as result resort to their old systems after trainings.

There is a high rate of illiteracy among farmers in Northern Ghana and this makes it difficult for them to adopt record keeping as well as new technologies. For this reason, farmers require continuous training and follow up to adopt recommendations.

Gender inequality is also a bigger challenge. Due to the cultural norms, it is uncommon to find farmer groups that comprise of both men and women. There are more men groups or nucleus farmers and as a result, more work need to be done to bridge the gap.

GHANA, HORTICULTURE

The objective of the F2F Ghana Horticulture Country F2F Project was to support expansion of non-traditional horticulture exports from Ghana by using volunteer technical assistance to strengthen capacity and upgrade production, handling, technical and business skills of producers and exporters. The goal was to accelerate productivity, profitability and market access for high value horticulture in Ghana's Southern Horticulture Belt, which was consistent with Ghana Mission objectives.

Over the five-year program, F2F Ghana fielded 42 volunteers who assisted 37 hosts, directly supporting 2,804 individuals representing horticulture producers, processors, FBOs and others. Majority of the assignments were implemented during the first two years of the project, as later in the program F2F moved its emphasis to the North of Ghana focusing on staple foods in the Feed the Future areas.

The horticulture assignments were conducted in areas such as organizational development, business plan and enterprise development, and technology transfer. At the beginning of the F2F program, the Ghana team sent an introductory letter to the Ministry of Food and Agriculture (MoFA) in Accra which provided linkages to the MoFA Regional and Districts Directors in the Eastern, Ashanti, Brong Ahafo, Upper East, Upper West and Northern Regions. In each of these districts, the extension officers assisted the F2F team in visiting some of the targeted hosts. Working closely with MoFA, the program was able to reach out to actors in all the 10 regions and also worked in 56 districts in the country. Towards the beginning of the project, before the introduction of the Feed the Future initiative, much of the work done with MoFA focused on the horticultural sector, mainly vegetables and tropical fruits production and processing. MoFA extension officers linked the F2F program to some of the farmer groups with which they worked. The officers assisted volunteers with language translation and provided venues for training during the assignments. They also took part informally in the trainings that the volunteers provided. In Derma, for example, MoFA provided its district premises for training the Awurade Na Aye Co-Op Vegetable Growers & Marketing Society and also Maltiti Agro Society. In Nanumba North, two volunteers provided assistance to farmer groups on agronomic and post-harvest management trainings of a total of 175 farmers. Extension officers were involved in each of these assignments to learn from the volunteers and be able to conduct follow up trainings and provide targeted assistance for the farmers, based on what the volunteers did.

Before the shift of the USAID-funded ADVANCE program to Northern Ghana and a focus strictly on staple crops, F2F worked with ADVANCE on the horticultural sector particularly on citrus. The F2F program, through ADVANCE assistance, reorganized and strengthened smallholder citrus farmer associations in the Eastern and Ashanti Regions of Ghana. The volunteers trained farmers on cooperative management, marketing and record keeping. The farmers trained have begun keeping records of their farming operations and group marketing which has strengthened their marketing operations.

HPW Fresh and Dry Limited (HPW), an exporter of fresh and dried pineapples, mangoes and papaya, through a collaboration with the ADVANCE project, received technical assistance from a F2F volunteer to train staff on biogas systems. The HPW team was given a better understanding of new techniques and now understands why these are necessary. The volunteer showed the staff how to improve the quality of the energy, test the production levels, and explained the importance of keeping records on equipment maintenance. After the volunteer's assistance in repairing the biogas shredder, the company now saves approximately \$1,000 per week on repair costs. In following the F2F volunteer's recommendations, HPW expects to increase the production and quality of the biogas and reduce their dependency on diesel generators by 30 percent.

F2F Ghana worked with farmer-based organizations or associations, input dealers who sell farm inputs such as fertilizers, seeds and agrochemicals to farmers, mechanization service providers who provide plowing services for farmers, research institutions such as the Crop Research Institute (CRI), aggregators who buy farm produce from the farmers, rice and soybeans processors, non-governmental organizations,

nucleus farmers who provide in-kind assistance of farm inputs and plowing services to small holder farmers and agricultural educational institutions.

Remaining challenges for the subsector

The greatest challenges in the horticulture sector remain to be engaging smallholders in effective outgrower schemes transferring knowledge on GAP, aggregation and transportation of perishable items. As the horticultural products are marketed overseas, there is a continued need to ensure that the horticulture value chain actors follow international best practices consistent with the end-market. That continues to require capacity building investments in technical knowledge as well as financial investments in critical upgrades to improve productivity.

GHANA, FLEXIBLE

Over the five-year program, F2F Ghana fielded 14 volunteers who completed 15 flexible assignments with 7 hosts, directly supporting 833 individuals representing associations, private enterprises and non-governmental organization, farmers and processors among others.

A total of nine of the flexible assignments completed were organizational/business development, many of which focused on agrochemical dealers that are also linked to the ADVANCE project smallholder farmers. Of the remaining flexible assignments, one assignment was a financial services assignment and five were technology transfer assignments dealing with beekeeping, mushroom production and turkey production.

The host organizations that received the interventions were made up of three NGOs, four private agricultural enterprises, five FBOs and one financial institution.

The assignments in the mushroom industry enhanced the mushroom industry in the Brong Ahafo, Volta and Ashanti regions. Prior to the assignments, mushroom producers had to travel to Accra to buy spawn from the Food Research Institute (FRI), which is the only state organization producing spawn. The spawn are often unavailable in the required quantities and the long distances travelled after procuring the spawn introduce a greater potential for contamination. The host organizations after receiving the trainings in the mushroom industry are now able to produce their own spawn and supply to farmers in their regions, as well as in adjacent regions. Bemcom Youth Association is one of the beneficiaries of the spawn production training in the Brong Ahafo region that no longer has the need to purchase mushroom spawn from the FRI. The organization is now produces 300 to 1,000 bottles of spawn per week and 1,500 to 3,000 compost bags per week to supply their farmers and other mushroom farmers in the region, which was not the case prior to the mushroom industry F2F assignments.

LIBERIA

LIBERIA, LIVESTOCK

The primary objective for the Liberia Country Project Livestock was to rehabilitate the livestock subsector by providing targeted volunteer assistance to develop the capacity and productivity of the livestock subsector, which will result in increased income for smallholder livestock farmers and associated industry actors. Assignments were provided in creating feed using locally available materials, animal nutrition, veterinary medicine, animal health, record keeping, business planning, slaughter house design as well as data collection and analysis on the needs of the livestock value chain.

Review of M&E impact surveys indicate that volunteer support was targeted across the value chain. Under livestock, there were eight individual farms who participated in the project, all sharing information with their neighbors. Four farm associations received support, as well as two agriculture education institutions and one non-profit partner. Host selection brought a diverse mix of partners selected to maximize access to information for farmers.

The most significant impact of the project was assisting a partner in receiving a grant for over \$2.5 million USD from a USDA-funded project on the basis of recommendations made by the Farmer to Farmer volunteer. This was achieved with the support of a USDA Food For Progress livestock support program managed by Land O'Lakes, Inc. Connex /MD SOW worked with volunteer Ronnie Stratton to compile a complete list of upgrades necessary in the slaughter facility they are working to refurbish. Based on these recommendations, Land O'Lakes awarded the grant.

Another significant development was a livestock survey conducted of over 300 farms. The results of this study were used to complete a value chain analysis of the livestock sector, and guide implementation of all programs in the livestock sector in Liberia, including the next phase of Farmer to Farmer. This work benefited from collaboration with the USAID FED project, providing technical assistance to establish a F2F farmer partner as a key partner for the program. The Robert Karnei mixed farm is considered for a FED grant of \$20,000. The grant will be used to establish a model goat production farm and to facilitate outreach and information sharing with surrounding farmers in the region with the goal of supporting regional farmers successfully engage in goat production. Associations working with the USDA program Livelihood Improvement for Farming Enterprises (LIFE) project worked with the project to develop livestock as an alternative source of income for farmers. All livestock work was done in close collaboration with the MOA and included review of every assignment and every CV targeting the livestock sector.

Overall progress in the livestock area is slow, but encouraging. Major investment is taking place for value added processing with US government support, as well as international investment in production that has the potential to address the major issues of feed and veterinary medical supply. Numerous projects target livestock value chain development (FED, LIFE, USDA Food for Progress Livestock program). Farmer to Farmer value chain analysis of the livestock sector is based on the livestock value chain analysis of goats conducted by FED, a representative survey of 4,400 LIFE Association farmer members located in 6 counties, as well as information gathered over the course of four years from farmer interviews and volunteer reports working in the livestock sector.

The counties with the largest concentration of livestock identified through the farmer survey are Nimba and Lofa. River Gee and Grand Gedeh are also counties known by project staff as established livestock production centers. The livestock preferred by farmers are chickens (80% of farmers surveyed have chickens) and goats (60% of farmers have goats). Cattle raising is done almost exclusively by large commercial farms. The farmer survey and program experience confirm a concentration of swine farmers in Nimba. F2F Liberia experience has identified and supported critical segments of the fish value chain (fingerling producing farms) in Margibi and Nimba

Freshwater fish are in high demand in Liberia. Partners reported being unable to meet market demand for fish. F2F Liberia, working with the Ministry of Fisheries has supported three farms and one NGO to establish themselves as suppliers of fingerling stock for both tilapia and catfish. The fish value chain has good growth potential. Farmer to Farmer can assist out-grower farms strengthen their fish production through technical support. Development of affordable feed options using readily available materials is needed for producers. As the value chain develops, it is anticipated that investment will be needed to further support development. To enhance industry development and ensure coordination and support of government of Liberia development strategies and activities, all assignments and volunteer resumes were vetted by both USAID and the Ministry of Fisheries.

Chicken, goat, and swine farmers all report similar challenges. Mortality rates are high with the highest rates for chickens, then goats, and less though still substantial for swine. Critical for the development of these value chains is access to veterinary services and medicine. Analysis of animal care practices is

needed. After animal health, affordable local feed options are necessary for farmers to move from free range to semi-intensive production and then to intensive production. At this time and for the foreseeable future, markets do not seem to be an issue. Farmers report being able to sell animals when they want, at the price they want.

Remaining challenges for the subsector

Record keeping enables farmers to assess the profitability of their operations in order to determine where to invest their money and efforts. For livestock production, free range methods tend to increase the amount of time required to bring animals to market. If farmers do not track this information, they do not recognize the lost opportunity and they have less incentive to intensify production. Record keeping also documents enterprise activity, proves profitability and professionalism, enabling access to agriculture finance.

F2F has provided technical assistance to farms on animal health and medication. This has been very well received by farmers and served to clarify the need for farmers, who did not understand their animal health problems. What is needed now is a locally available source for veterinarian services and access to medication. Input suppliers have started to establish distribution centers outside the capital and some are providing technical support to their client farmers. Adding veterinary services to their business is in line with their expanding business practices and will enable them to expand revenue through for fee services and veterinary medicine sales.

All livestock producers have animal nutrition issues. Locally produced balanced feed is not available. Importation of feed requires established strong demand which does not exist. Farmers need assistance identifying sources and processing methods based on locally available materials that will address animal nutrition needs in a way that supports profitable production for the farmer. Linking fish ponds to livestock supports fertilization of the ponds and to crop production supports use of crops/residues as feed for both fish and livestock.

In all agriculture subsectors, access to finance and investments is a continuing challenge in Liberia. To attain, or expand intensive production, investment may be necessary. Farmer to farmer assists these farmers in developing business plans that enable them to analyze opportunities and, where prudent, invest in their operations. Two value added processors in the livestock sector are setting up facilities. They are both nascent and are in need of technical support to successfully plan and establish their operations. While processing facilities are not a major obstacle to value chain development, long term industry growth will benefit from infrastructure development. Work in this area will increase demand for domestic livestock.

LIBERIA, HORTICULTURE

The objective of F2F Liberia support in horticulture was to improve the productivity and post-harvest handling of the subsector in Liberia by providing targeted volunteer assistance toward strengthening agricultural organizations and introducing good agriculture practices.

Assignments were conducted in production, integrated pest management, record keeping, business planning, food processing and marketing. Of the 24 host organizations, the vast majority – 19 hosts – are farmer associations. Three partners are NGO programs that bring together smallholder farmers and one was a leading private farm. These partners were targeted in order to maximize the reach of the technical assistance provided to the horticulture value chain. One host was a cottage industry processing partner, created through a training effort targeting women interested in starting processing businesses by the program through an umbrella organization. The lone processing partner reflects the near absence of processing entities in the horticulture value chain.

The stepped approach of training women in cottage processing, with follow on technical assistance for those working to grow their business has yielded one partner now strongly established with improved products. One female entrepreneur trained by the program in food processing and food safety tripled the shelf life of her product and established her business providing plantain chips and sauces to grocery stores in Monrovia.

The most significant impact achieved in the horticulture sector is in the area of record keeping and financial management. Almost all Farmer Associations and member farms were not keeping business records. Keeping records enabled hosts to track expenditures and identify profit and loss centers in their businesses. This was a critical component in the “Farming as a Business” concept introduced to farmers and essential for farmers to understand the benefit they gain from Association membership. New production technology was introduced to farmers to enable them to increase income through introduction of new products. Work in Integrated Pest Management provided farmers with low cost environmentally friendly methods to address pest problems, which also contributed to increased income for farmers through increased yield and reduced costs.

The large number of partner farmer associations was achieved through collaboration with the USAID ACE project and the USDA LIFE project. Technical assistance to these farmers groups added strategically to the ongoing support provided by these US government initiatives.

F2F Liberia has established a strong network of host farmer associations in USAID Feed the Future targeted counties of Nimba, Bong, Lofa, Grand Bassa, Margibi, and Montserrado. Analysis of the major markets for fresh produce in Monrovia shows most fresh produce, outside the lowest cost green market segment, is imported and there is strong potential for import substitution. The Farmers’ Market organized as part of the Farmer to Farmer capstone event clearly demonstrated that farmers can provide higher quality produce than is currently available in Monrovia and at a lower price. Technical needs were identified by F2F through collaboration with the USAID ACE, USAID FED and USDA LIFE. These technical needs build on each other, with partners needing to establish their technical capacity in the highest priority area before moving on to the next priority level.

Remaining challenges for the subsector

Record keeping enables farmers, middlemen, and processors to assess the profitability of their operations in order to determine where to invest their money and efforts. Record keeping also documents enterprise activity, proves profitability and professionalism, enabling access to agriculture finance.

Improving farmers’ access to markets and meet the demands of the local market remains a challenge in the sub-sector. Accessing these markets requires coordination among farmers for all but the largest commercial farms, so technical assistance is needed to either build the capacity of farmers associations to provide the support needed, or to organize farmers as necessary to capture markets. This may include marketing, quality control and packaging. Assist middlemen in establishing relationships and incentive systems with farmers that provide the middlemen with the produce they need to meet market demand. This may include marketing, quality control and packaging. Processors are typically utilizing a readily available low cost commodity as raw material. This makes marketing, quality control and packaging most important for this group.

For farmers with established farm record keeping systems, a target market with clear demands, and the finances necessary to serve the market available, technical support in production becomes important to increase sales and profits through reduced costs, increased yield, increased quality and/or introduction of new products.

LIBERIA, FLEXIBLE

F2F Liberia flexible assignments included supporting rural financial institutions, rice farmers and fish productions. During the course of the program the F2F Liberia team recognized that limited access to credit was hindering the program's beneficiaries from growing their business and adopting techniques to increase production. As a result the program approach to flexible assignments was to target agriculture financial organizations. Agriculture finance work strengthens the ability of financial institutions to provide credit to agriculture. Assignments included the creation of a computerized loan tracking system to replace the paper ledger system, as well as creation of credit policies and procedures.

Rice farmers were able to earn additional income through increased sales achieved through improved post-harvest handling and better storage resulted in less waste and better prices. In addition, farmer associations working in rice production signed contracts with the World Food Program to supply rice from the current harvest.

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Remaining challenges for the subsector

As financial institutions move from informal savings groups to providers of credit, clear written systems are needed. Multiple volunteers have worked with KEF, Rally Time Savings Club, Good Samaritan Savings Club, LCUNA, and others. Financial institutions can improve their efficiency by replacing paper ledger systems currently used with a basic computerized system. The program has developed an access based system that is simple and easy to use. This was the focus of the work with KEF and this work can be shared with other financial institutions.

Fish production remains in a nascent state, and fish production is technically demanding. The farmers involved in the industry need ongoing technical support to strengthen their production practices. Specific technical issues include the need to create integrated systems. Linking fish ponds to crop production supports dual use of irrigation water as well as mud from fish ponds can be used as fertilizer. Optimal stocking levels and raising all male tilapia are all critical topics Farmer to Farmer will help Liberian fish farmers to understand to improve their production.

MALI

F2F Mali supported USAID/Mali's Accelerated Economic Growth (AEG) activities with an emphasis on livestock, primarily small ruminants (sheep and goats), and limited activities in staple crops (millet, sorghum, rice --priority value chains for USAID/Mali, as well as maize).

F2F Mali worked alongside the Mali Agricultural Value Enhancement Network (MAVEN) Associate Award. F2F and MAVEN complemented and built on each other's activities, thus expanding the collective reach and impact in-country within key subsectors. MAVEN was initially designed to complement F2F by targeting additional subsectors with high income-generating potential (including fisheries, horticulture, and an increased focus on staple crops). However, MAVEN was restructured in FY12 to reflect USAID/Mali Feed the Future priorities, and, in turn, refocused on staple crops and livestock. The two programs worked in a coordinated fashion to address needs and constraints in these two subsectors. Furthermore, though F2F programming was suspended due to the political instability in

country, MAVEN activities resumed after a short hiatus, and thus, ACDI/VOCA and Winrock were still able to engage volunteers in helping to make continued progress and impacts within the target subsectors.

Local outreach for F2F Mali included newspaper articles on host Faso Kaba and TV coverage on assignments with partner/hosts CAB Demesso and DR Pêche Mopti. In addition, Winrock field staff attended multiple agricultural sector conferences and exhibitions to share information on F2F. Several new hosts were identified as a result.

MALI, STAPLE FOODS

The objective of the F2F Mali Staple Foods Project was to enhance the productivity and competitiveness of millet, sorghum, rice, and maize by providing targeted volunteer assistance to increase yields and improve farm management, product quality, and postharvest handling in accordance with the Mali Agricultural Guidelines Law and USAID/Mali's Feed the Future Strategy.

Significant opportunities exist for staple foods in Mali including large areas suitable for dry land agriculture and significant potential for irrigated agriculture in the Niger delta. Both the Government of Mali's national plan for investment in the agriculture sector (PNIP-SA) and the USAID/Mali Feed the Future strategy prioritize investments in sorghum, millet, and rice. Agriculture growth has been led by the rice sector, which accounts for 12 percent of GDP. There is significant donor investment in the subsector (primarily supporting irrigation, market access and participation, and rural microfinance), though the majority of donor investment was temporarily suspended following the coup and many current programs and proposed activities are still pending.

The most significant achievement in the subsector by F2F was assisting local seed company Faso Kaba to increase production and distribution of improved seeds, including the introduction of hybrid seeds. Low productivity and limited availability are among the chief constraints to the subsector, but more farmers now have access to improved seeds thanks to F2F's support to Faso Kaba.

Remaining challenges for the subsector

The staple foods subsector continues to be in need of further training and assistance in value addition, post-harvest handling, and processing of millet, sorghum, rice, and maize, to enable farmers to reduce losses and increase and diversify sales. Access to credit remains an important constraint as well.

Perhaps most importantly, farmers and farmers groups in this sector would benefit from organizational development, literacy, and numeracy training and support –to improve farm management and cooperative development to enable them to take advantage of technologies and advancements. Enterprise management training, e.g. farming as a business, is necessary for building the capacity of individuals and organizations to be active stakeholders in the value chain.

MALI, LIVESTOCK

The objective of the F2F Mali Livestock Project (focused primarily on small ruminants) was to increase small ruminant farmers' incomes and competitiveness in local and regional markets. Investment in the livestock subsector has been less than that in staple foods, though animal husbandry is practiced by 80% of the population. Following gold and cotton, livestock is the third most important export commodity in Mali, and as such, the livestock subsector is one of the top priorities of Mali's national agriculture development plan (PNIP-SA). USAID/Mali's Feed the Future strategy also identifies livestock as a priority focus subsector to promote both economic growth and improved nutrition. Chief constraints include poor animal health and limited access to forage and supplemental feed both of which result in low productivity, and lack of access to market information.

F2F's most significant contribution to the subsector has been in the area of animal husbandry, including improved animal feed and forage. Volunteers provided training and technical assistance on all aspects of animal health, artificial insemination, and feeding practices. Support to ANAVEN, a group of private veterinary service providers, has led to improved animal husbandry practices benefitting the 8,250 client farmers they serve. Support for small ruminant husbandry, a segment where women are highly involved, was also significant. Improved animal husbandry practices have led to increased production of meat and milk.

Remaining challenges for the subsector

Though F2F contributed to improvements in animal husbandry and improved forage and supplemental feed, much support is still required to significantly increase productivity and meat production, in order to transform the livestock sector from one focused on traditional to commercial production. Improved access to credit and market information remains critical for smallholders, especially women. As with the staple foods sector, farmers and farmers' groups in this sector would also benefit from organizational development, literacy and numeracy training, and support on farm management in order to enable them to take advantage of technologies and advancements.

NIGERIA

The three target value chains selected for the Nigeria Country F2F Projects (staple crops, apiculture, and aquaculture) were in line with the federal and state government programs to transform the Nigerian agriculture sector, as well as USAID/Nigeria's priorities for agriculture and food security -- strengthening value chains, building business skills, and increasing access to credit.

In addition to sector-specific strategies and accomplishments, F2F Nigeria executed overarching strategies that led to the following general successes:

- Promoting the culture of record keeping among Nigerian farmers by engaging hosts in data collection and providing volunteer technical assistance on this important topic;
- Promoting cooperation and building synergies among Nigerian farmers through cooperative development;
- Engaging public and private sector agriculture stakeholders on the challenges facing the Nigerian farmer through meetings, information sharing, and participation in volunteer assignments;
- Collaborating with the Ministry of Agriculture and Natural Resources at the federal and state levels to foster local ownership and facilitate follow up and replication of volunteer activities;
- Empowering and equipping agriculture extension agents, researchers, and other service providers to more effectively deliver services through TOT volunteer assignments; and
- Leveraging over \$72,000 in resources from partners and collaborators to contribute towards volunteer in-country costs (e.g., per diem, lodging, and transportation in the field) and/or venues and other logistics. This supported cost efficiency and secured commitment from our local counterparts.

F2F Nigeria also emphasized local outreach. F2F information was published in seven written articles (local newspapers and bulletins), and F2F staff and volunteers were interviewed 13 times by local radio and television programs. Some host organizations and local networks included F2F information on their websites. In addition, F2F Nigeria staff participated in an agriculture investment fair in Lagos, which resulted in a number of requests for assistance and collaboration. This was essential to our strategy to refocus activities in southwest Nigeria (following instability in the north). All field visits and assignments incorporated courtesy visits to rural chiefs, local council chairpersons, and public and private sector stakeholders to promote the F2F program and solicit support. Furthermore, F2F Nigeria held and/or participated in numerous forums, inviting individuals and stakeholders to hear about the F2F program and witness F2F volunteers in action.

NIGERIA, STAPLE FOODS

The objective of the F2F Nigeria Staple Foods Project was to enhance the competitiveness of staple crops producers by providing targeted volunteer assistance to improve productivity, market linkages, storage, and commercialization. Targeted efforts in this sector are important to increasing food security and incomes for rural households.

There has been significant investment made in the staple foods subsector. Both the Government of Nigeria and USAID have focused investments on increasing agricultural productivity and market access for smallholders and expanding jobs in the rural sector. Most notably USAID/Nigeria's MARKETS, Bridge to MARKETS II, and MARKETS II programs represent almost a decade of investment in select value chains (including cassava, rice, soybean, and maize) to increase smallholder access to markets, improve competitiveness, and increase exports. However, despite overall progress, in a country of 158 million people (47% of the population of West Africa), continued support is necessary.

A significant achievement of F2F in this subsector was in supporting the development of a new private extension enterprise, Kaliber Ventures Limited. The firm developed a program to provide services and inputs to small-scale farmers, with a goal to introduce farmers to year-round maize and rice production. After receiving training and assistance from two F2F volunteers, Kaliber Ventures launched its services and exposed its programs to other stakeholders. As a result, the Federal Ministry of Agriculture and Rural Development engaged Kaliber Ventures to pioneer its irrigated rice program in Kogi state under the ongoing agriculture transformation agenda.

Remaining challenges for the subsector

Having the right equipment and improved inputs at the right time still remains a significant challenge for most Nigerian staple crop farmers. Low levels of mechanization is a major setback to commercial agriculture and also discourages youth participation in agriculture. Farmers are willing to access tractor hiring services, improved seed varieties, and other inputs if and when they are available.

In addition, extension services are often unavailable or unequipped to serve Nigerian farmers. Future programs could address this by improving agriculture training curriculum to empower and raise the technical capacity of extension agents.

NIGERIA, APICULTURE

The objective of the F2F Nigeria Apiculture Project was to develop a commercialized, market-led apiculture value chain and to encourage stakeholders, including the government, to come together to create apiculture value chain alliances that will engage stakeholders from around the country. While beekeeping represents only a fraction of the overall agricultural base of Nigeria, it is a source of livelihood for tens of thousands of rural Nigerian families. The importance of bees, both wild and domesticated, cannot be overstated. Not only do they provide honey, beeswax, and other beneficial products, but more importantly they are significant pollinators of many wild and cultivated food plants. Nigeria remains a net importer of honey, though the country possesses the natural and human resources required to successfully meet domestic demand. As such, significant opportunities exist for increasing honey production, sales, and incomes. At the same time, significant issues such as bush burning and pastoralism, are threats to increased honey production and the livelihoods which depend on it.

The most significant achievement of F2F in the subsector is in the transition of thousands of beekeepers from traditional subsistence beekeeping methods to commercial beekeeping activities utilizing modern hives. The Nigerian Beekeepers Network represents approximately 12,000 beekeepers across 16 states in Nigeria, most of whom have converted to modern hives. The adoption of modern hives contributes to increased production and improved quality (because of the way honey is harvested from modern hives),

reduces environmental destruction (eliminating the need to create traditional hives which kills trees), and protects the bee colony.

Another significant development was an assessment conducted to evaluate the (social, economic, and environmental) impacts of bush burning and pastoralism on beekeeping in Nigeria. Dr. Mike Doyle, consulting scientist in environment, natural resources, and sustainable systems, conducted a field survey in six geopolitical zones representing much of the country, which included a wide range of stakeholders from beekeepers, state agricultural college faculty, local government administrators, and other interested parties. Survey results were presented at the first ever honey stakeholders workshop, and a communiqué stating results and recommendations from the study were published in two national newspapers. The event united 87 individuals – including beekeepers, farmers, government agents, and private sector representatives – to increase awareness, strengthen collaboration, and promote growth in the sector. The event highlight was a resolution to form a steering committee to develop a Beekeepers Bill of Rights, which would advocate for laws to support apiculture in Nigeria.

Remaining challenges for the subsector

Honey production continues to expand in Nigeria, but the sector is still in need of improvements in processing, particularly to market quality Nigerian honey to compete with imported brands and/or in the international market. Beekeepers and honey processors continue to need training on simple processing techniques to produce and process clear, pollen-free honey using available materials. Private sector investment in value-added processing can help make a difference in this regard. The apiculture sector would also benefit from increased training and emphasis on standards, including HACCP requirements.

The apiculture subsector will be better positioned to grow if the issues of bush burning, pastoralism, and honey theft are regulated. While the F2F-supported beekeeping forum helped raise awareness and set the stage for immediate actions, additional support is needed to continue to move things forward. Continued growth within this sector can lead to further impacts (e.g., increased create job opportunities) for youth and women in particular.

NIGERIA, AQUACULTURE

The objective of the F2F Nigeria Aquaculture Project was to enhance the competitiveness of fish farmers by providing targeted volunteer assistance to improve the availability and quality of fish stock and feed. Support in this sector is critical to address the country's decreasing food self-sufficiency ratio within its growing population. Aquaculture is a major livelihood activity and source of nutrition for millions of Nigerian households. The demand for fish exceeds domestic production, thus offering an opportunity for more fish farmers to engage in this lucrative activity and/or for existing fish producers to expand and commercialize operations.

Like the staple foods subsector, there has been significant investment in aquaculture in Nigeria. USAID/Nigeria's MARKETS, Bridge to MARKETS II, and MARKETS II programs have also included aquaculture as a priority value chain, and also targeted soybean and maize as key components of fish feed. F2F coordinated with MARKETS and other programs supporting activities to increase the availability of fish stock and feed.

The most significant achievement in this subsector by F2F has been in the increased production of fish stock. For example, Fishouse Aquaculture Ltd. has increased production of catfish fingerlings and juveniles by 95%. Prior to volunteer assistance, the mortality rate for catfish fingerlings was 60% and has now been reduced to 5%. Fishouse is just one fisheries enterprise among many others that have benefitted from F2F support in Nigeria. To date, F2F interventions have enabled more than 1,000 individuals in the fisheries sector to make improvements that increase incomes, provide increased access to an important source of nutrition, and create jobs for millions of people.

Another significant development as a result of F2F assistance, Tee Ess Integrated Farms was able to become successfully registered by the US Food and Drug Administration to export smoked fish to the U.S. In September, the company owner traveled to the US and Canada to meet with smoked fish distributors in North America.

Remaining challenges for the subsector

The aquaculture sector in Nigeria would benefit from further assistance in the areas of value-added processing (including private sector investment in processing equipment and development of agro-processing clusters), as well as cooperative development to enable producers to successfully work together and achieve self-sufficiency. Producers and processors are also in need of training and increased emphasis on quality standards, including HACCP. In addition, extension services are often unavailable or unequipped to serve Nigerian farmers. Future programs could address this by improving agriculture training curriculum to empower and raise the technical capacity of extension agents.

LESSONS LEARNED

Each of the four participating countries experienced challenges in program implementation and socio-economic as well as cultural hindrances. Region-wide, F2F staff noted that access to credit was limited to farmers, organizations and businesses and in some cases affected the hosts' ability to adopt volunteer recommendations. In Liberia, F2F flexible assignments supported rural financial institutions to rebuild credit systems. F2F Ghana provided linkages through the ADVANCE program and other agricultural initiatives to improve farmers' access to credit. Additionally, volunteer assignments on development of business plans provided farmers and business owners the documentation needed to access loans from financial institutions.

Throughout the region F2F staff noted an inability to accurately capture financial information from hosts for two reasons 1) lack of or inaccurate record keeping by the hosts and/or 2) concerned of the confidentiality of the data. In Ghana, Liberia and Nigeria, volunteer assignments worked with local organizations and farmers to develop and maintain records as well as highlighted the importance of accurate record keeping to make good business decisions and access financing. Furthermore, all staff worked to instill confidence from the hosts to ensure financial information was provided and at times talked with them regarding overall operations to try and capture the most accurate data.

Separately, each country faced different implementation challenges as listed below.

GHANA

- **Leveraging Resources** – Coordinating volunteer activities with agricultural program such as ADVANCE has helped to leverage resources, expand outreach, and identify possible assignments and host organizations. Furthermore, working with larger programs supports the sustainability of volunteer assignments when field staff continue to reinforce training initiated by the volunteer and link host organizations to needed resources such as input suppliers and credit.
- **High illiteracy rates** – Illiteracy and lack of numeracy training, particularly evident in northern Ghana, effects farmers' ability to keep financial records and track farming operations. Due to this, volunteer assignments focused efforts on training farmers how to keep records, often using symbols to represent key topic areas. Coordinating efforts with ADVANCE, which included numeracy training also helped to provide support to program beneficiaries.

LIBERIA

- Farms too small and scattered to succeed - Shifting cultivation is still being practiced in Liberia's agriculture. Assessing impact of a technical assignment such as soil testing and soil conservation on farms where farmers have moved to new areas has been a challenge. F2F Liberia encouraged farmers to cluster and do sedentary farming and taught to do crop rotation and mix-cropping to maintain a balance in soil nutrients.
- People accustomed to free donor handouts - During the civil war and years immediately after, international organizations pumped in massive amount of cash and materials to jump-start social-economic activities. The populations became accustomed to free handouts to the level that even workshops participants demand sitting fees to acquire knowledge that would change their situation. These expectations to some extent affected program implementation and beneficiary participation in the program. In order to succeed working with this sort of expectant population, the F2F Liberia country team decided to select hosts who were engaged into vocations and committed to improve their organization or business.

MALI

- Focusing on a limited number of subsectors with direct relevance to economic growth was a good strategy to ensure tangible impacts
- While partners take a large amount of investment (in time and effort) to build and maintain relationships, a strong partnership strategy is key to ensuring widespread reach and follow up for beneficiaries
- The wider geographic focus across multiple regions in the country enabled the program to identify and impact more groups; however, a more limited geographic focus would have enabled deeper impact and easier follow up. Hosts in the more remote areas (e.g., Mopti) were more difficult to stay in contact with, especially after the coup and resulting insecurity.
- Early preparation and communication with volunteers is critical to assignment success, as is the ability for all sides (F2F staff, volunteer, and hosts) to maintain flexibility. When volunteers are connected to field staff and hosts before their assignment, they are able to be more prepared for their work in the field, and all sides can be clear on shared expectations.

NIGERIA

- The hands-on nature of F2F assignments – and the ability of volunteers to directly address hosts constraints – helped achieve buy-in from relevant stakeholders and built the confidence of farmers. As a result, many of these trained farmers emerged as local experts and F2F ambassadors, now acting as a resource to other farmers who did not interface with F2F volunteers.
- Involving public sector agencies, local leaders, other development partners (including US government funded programs) were key success factors in the identification of new hosts, as well as in assignment implementation and follow-ups.
- One challenge was the lack of baseline data due to farmers' lack of or poor record keeping. F2F Nigeria responded to this by bringing four F2F experts to work with hosts in Ilorin, Abuja, and Calabar on record keeping and to emphasize on need for keeping sound records.
- Another challenge was skepticism among farmers in providing sales and income data, for fear of taxation. This was mitigated by educating the farmers on how information plays an important role in planning –not only for themselves, but also for the government, financial institutions, development partners, and other stakeholders with whom they interact or from whom they receive services.

F2F WEST AFRICA SUCCESS STORIES

GHANA F2F: MERGING PRODUCTIVITY IMPROVEMENTS WITH ORGANIZATIONAL DEVELOPMENT

Over the past year, the Dekaworwor Rice Grower's Association in Twapease, Ghana has seen a dramatic increase in rice yields and incomes have nearly doubled. The Association has used this additional income to expand educational opportunities for children in the community and to extend credit to members. All primary school aged children now attend school, because their school fees are covered by the Association. The Association has also paid for promising teenagers to attend junior high school and trade school. Last year, a member of the group was severely injured in a motorcycle accident and the Association lent this man 500 Ghana cedis (\$263) through their credit system to cover his medical expenses.

How was this group able to increase rice yields, double incomes, and provide these services to their community? Through hard work and some help from the Farmer-to-Farmer (F2F) program. F2F is a USAID funded program that allows American agricultural experts to go to developing and transitional countries to volunteer to share their knowledge and expertise with local farmers, farmer groups, and businesses. The Dekaworwor Rice Association is one such group that received assistance from F2F volunteers. The Dekaworwor Rice Association is a cooperative that consists of 64 members, most of whom farm rice and cocoa. Two American volunteers worked with the Dekaworwor Rice Association, Dr. Addae and Matthew Wolverton.

Prior to the arrival of the F2F volunteers the Dekaworwor farmers planted low quality seeds through the broadcasting method. The group was loosely organized and members did not know how to keep financial records. Dr. Addae explained to the group that they could yield much more rice by using higher quality seeds and planting manually in lines. He worked with the farmers to demonstrate how this is done. Matthew taught the cooperative how to keep financial records to track spending and earnings. Matthew also worked with the group to establish a constitution, which clearly laid out duties and responsibilities for members of the cooperative.

Member's yields have increased from 0.85 tons per acre to 1.98 tons per acre, resulting in an average increase of \$446 per acre effectively doubling the farmers' sales of rice paddy. This is due to the successful assignment on agricultural practices and post-harvest handling from Dr. Addae. Additionally, thanks to Matthew's assignment on organizational capacity building, the association, together with other rice groups, now bags their own rice with their brand name and due to the improvement in their quality of produce NWRGA is making very good market penetration in the Adansi South District in the Ashanti Region of Ghana where they are located.

The members can now track what they spend and how much they earn. Now that the group has a constitution in place, they are much more cohesive and organized. Meetings take place regularly, members fulfill their duties, and dues are consistently collected. One of the most important changes is how the group now works together and cares for one another. One member said, "We are so much more unified now than we were before the training. We care for each other now." Another member summed it up and said, "Now there is love, unity, and respect in our group." And of course, the group is expanding educational opportunities and extending credit.

GHANA F2F: RURAL WOMEN EMPOWERED TO CHANGE QUALITY OF LIFE

About 50 percent of women in Ghana engage actively in agriculture, a sector which contributes to 36 percent of the country's gross -domestic product. While they have limited access to and control over productive resources such as land, labor, financial resources, appropriate technology and inputs, they often carry the burden of feeding their households with proceeds from their farming activities.

The Kukunansor Women Organization (KWO) is an association of 998 female farmers engaged in cultivating soy beans and micro credit in Chereponi, a community in the Northern Region of Ghana. KWO was formed in 2007 by Ernest Asoi to improve the livelihoods of women through agriculture and micro credit. Access to plowing services is a major constraint for women cultivating soybeans in the region so KWO provides its members with plowing services. Members repay in-kind after harvest with a 100kg of soybean for every acre of land plowed. The association then sells the soybeans to Savannah Farmers Marketing Company in Tamale, one of its major buyers. The net savings generated from the plowing service is put into a fund to make interest-free micro loans available to members for income generating activities during the dry or off-season.

Prior to the USAID-funded Farmer-to-Farmer (F2F) program, the KWO members had limited knowledge in preparing farm budgets, keeping inventory records and records of activities carried out on their farms. The leadership of the association could also not help members as it did not even keep accurate records of organizational activities. This made it difficult for members to calculate their profitability each farming season and also to expand their operations.

In July 2012, F2F volunteer Gerald Nolte, an agribusiness volunteer, trained three leaders of KWO as a trainer of trainers assignment on best management practices such as record keeping, preparing income statements and farm budgets, to make members' farm operations more technically and financially efficient.



KWO members demonstrate how to plant soybeans using a three-row planter technique which a volunteer taught them.

Following Gerald's recommendations for KWO to procure a second tractor to keep up with members' high demand for plowing services as well as improving their agronomic practices for improved yield, KWO's leadership secured a grant from the USAID-funded ADVANCE Project to purchase a new Massey Ferguson tractor. With this additional tractor, KWO was able to plow for all members on time this farming season. The group has also secured GHC6,000 from donors in Germany to support their micro credit program. For the 2012 farming season, members introduced crop rotation and cowpea production on their farms as a means of improving soil fertility. This led to increases in crop yields by 30 percent, enabling the group to sell their soybeans to Vester Oil, one of the major processors of soybeans in Ghana. The group got a better price than initially when selling to another company.

This group's success is also an example of beneficial linkages between F2F and F2F Associate Award implementation in Ghana. For example, all 998 women who were illiterate have also received numeracy training with support from the ADVANCE program. This training has helped to promote the women's financial literacy and business acumen, empowering them to have more control over their farming activities. The group's leadership now undertakes a series of educational activities on good farming practices for the women and uses QUICKBOOKS software, which ADVANCE granted to them, to assist them in planning and keeping their data. Currently, KWO has increased its membership from 18 to 22 communities. ADVANCE's additional follow-up activity has enabled KWO to adopt recommendations made by the F2F volunteer.

Through F2F and ADVANCE, the women have seen a change in their quality of life as they are now able to adequately support their households by supplementing their nutritional needs with soy beans and generating income through their farming operations to support their husbands to take care of their children in school. Following the progress made by these women, their husbands are now willing to release land to their wives for farming.

LIBERIA F2F: IMPROVED FISH FARMING TECHNIQUES BOOSTS FARMERS' INCOME

The Gborfella Farmers Association (GFA) is a small group of 25 farmers (7 women and 19 men) established in 2001 in Kakata, Margibi County, Liberia. GFA members grow vegetables, farm poultry and pigs, and raise Nile Tilapia in fish ponds as income and food diversification strategy. While members were dedicated to fish farming, they lacked knowledge of key methods such as food ration formulation, pond construction and identification and segregation of fish by sex.

In August 2012, Dr. Joe Sullivan, currently residing in Oklahoma and formerly a fish pathologist with the Alaska Department of Fish and Game, provided training to GFA members as a volunteer under the USAID-funded West Africa Farmer-to-Farmer (F2F) program, which is implemented in Liberia by ACDI/VOCA.

Dr. Sullivan taught the group improved techniques for fish pond construction and management, how to manage water and ensure nutritional balance and how to formulate optimal fish feed rations. The volunteer introduced the technique of separating male and female tilapia in ponds to prevent energy loss from reproduction and significantly increase fish size. This training included demonstrations of techniques to accurately identify the sex of a fish. Dr. Sullivan also covered the topic of raising and selling all-male fingerlings (young fish) to other fish farmers.

GFA adopted the techniques from Dr. Sullivan's training and have taught them to other farmers. Mr. Augustine Moore, the chairman of GFA, reports that before the training by Dr. Sullivan, his association's fish farming income since the ponds were built and stocked in 2001 was between \$100 and \$125 per year. After Dr. Sullivan's workshop, GFA was able to produce and sell 250 kg of grown fish for a total of \$625 and 13,000 fingerlings for \$2,600 total. GFA also received a contract from another farmer to build 10 fish ponds using sound design knowledge acquired from Dr. Sullivan's training, which provided \$3,100 in additional income.

GFA is not only becoming financially stronger, but the association has become a training arm to extension institutions such as Booker Washington Institute (BWI) and Cuttington University that send students to GFA for internship in aquaculture. In August 2013 at the F2F learning capstone event, Mr. Moore said "I thank F2F for the training. ACDI/VOCA did not give us money but the organization gave us knowledge and knowledge gives one power and money."

F2F Liberia was added to F2F West Africa as a core country in 2009 with volunteer technical assistance focusing on the livestock and horticulture sub-sectors. Between 2009 and 2013, F2F Liberia successfully



Dr. Joe Sullivan teaching participants to prepare feed rations for fish using local leaves and vegetable matter.

fielded 64 volunteer trips which included 1,464 volunteer days, assisting 3,480 beneficiaries (41 percent female).

MALI F2F: CHEESE EXPERT INTRODUCES QUALITY IMPROVEMENTS AND NEW PRODUCTS

Mali possesses the most important livestock population in West Africa, with a high demand for Malian cattle and meat. The livestock sector accounts for 10.8% of the country's GDP and represents the third largest export. Mali's dairy sector, on the other hand, is nascent. A growing industry is developing in which herders sell fresh milk to centers where it is pasteurized and resold to the public. Beyond pasteurization, few milk processing methods are widely known or practiced. Alternatives to milk are of interest especially during the rainy season when cows produce a surplus of milk that goes to waste due to limited processing methods.

The Malian government recognized the need to teach new methods to process milk beyond the "fresh market" by branching out to new products like sour cream, cheese, and yogurt. In this context, a Winrock Farmer-to-Farmer volunteer was assigned to train members of the Ouélessébougou and Kasséla Breeder's Cooperatives on alternative milk processing methods. Members learned how to make Fromage de Hutte (Tvorog) from soured milk, Indian-style Paneer, and 'child's yogurt' from local milk. The volunteer, Dr. Poul Hansen, also made suggestions to improve the quality and safety of the Coops' existing milk and yogurt production.

Members of the two cooperatives learned a lot from Dr. Hansen's practical approach. The manager at Ouélessébougou Cooperative explained, *"In a lot of trainings, someone comes and they just talk to you. But when the F2F volunteer (Poul) came, he pulled his sleeves up and we actually went through the techniques together."* Likewise, the Kasséla Coop manager added, *"Poul really has the ability to transfer technical knowledge through his practical demonstration and thorough explanation. Now everyone who works in my cooperative understands how to make cheese and child's yogurt."* Participants valued the training because it taught them to make new products from local milk – all within their reach. The Ouélessébougou Coop is now producing a local version of the Paneer cheese called 'Wagasi.'



Dr. Hansen providing hands-on training on preparation of child yogurt

Both cooperatives adopted better practices in their milk and yogurt-making thanks to the F2F training. After the volunteer's departure, the Coops put in place many changes, including swapping wood filters for easier-to-clean metals ones, twice daily cleanings of the entire production center, and a new drainage ditch that pulls sewage water far from the facility. Moussa Dicko from the Kasséla Coop explains, *"Poul helped us to understand how to achieve quality products. We made a lot of changes to cleaning and sanitation of our milk production center. Now people really associate our Cooperative with a quality product, and this has really increased our sales. During the dry season, we are able to sell all of our milk locally."* Consumers recognize the better quality milk, and milk sales have increased dramatically, from \$450,000 to \$779,305 for Kasséla and from \$90,000 to \$321,697 for Ouélessébougou. With the extra income, the Ouélessébougou Coop was able to open a second collection center that now sells milk directly to clients in Bamako.

MALI F2F: SUPPORTING IMPROVEMENTS IN THE MALIAN SMALL RUMINANT SECTOR

Mali has an estimated 27 million small ruminants (sheep and goats), which represent an important source of income for poorer rural populations, and especially for women. Nevertheless, many people in rural areas tend to have sheep or goats as “savings accounts” that they can sell if a pressing financial need arises, but they are lacking in knowledge about animal health, feed, and how to increase meat and milk production to maximize profits.

To support the small ruminant sector, F2F volunteer Judith Moses came to Mali in August 2010 to train the Farming Cooperative of Dladie on all aspects of small ruminant husbandry. Judy visited the Coop’s pasture to observe the animals and made several important recommendations related to feed, nutrition, and animal health practices, as well as tips on how to improve the Cooperative.

At the end of the training sessions, the President of the Cooperative, Mr. Salif Traoré noted, *“The training was very important. We do not see quite often the veterinary agent in our village. Now we are able to implement some of the primary cares for our small ruminants; we will be providing assistance to our neighboring villages too.”*



Volunteer Judith Moses demonstrating proper animal husbandry techniques

Since the training, Coop members have implemented several new techniques that they learned from Judy, and have reaped the benefits. Members explained that they are used to taking care of goats and sheep, but before the training they didn’t think of the activity as a business. Before the training, the Coop members would just sell an animal if they needed money for some reason – but not to make a big profit. The training helped the Coop members improve the quality of their animals, and thanks to improved meat production, they are now able to sell more animals for profit. The Coop also noticed a serious improvement in the health of their animals after applying Judy’s recommendations, especially among pregnant ruminants and newborns. Prior to the training, five out of 10 newborns fell ill and died; now, only two may die at most. The Coop now sells at least 400 heads of small ruminants in a year, compared to 150 before the training. As a result, annual sales increased from \$14,500 to \$37,500 and income increased from \$4,350 to \$26,250.

One Coop member explains, *“Before the training I had small sheep. After I followed the volunteer’s recommendations, my sheep got fatter. Since we started following the volunteer’s recommendations, we have all noticed an improvement. Before, our animals often had diarrhea and a cough; since we started following the recommendations, they no longer have those problems. I am now selling my sheep for a much higher price. Before the training, for two of my skinny sheep I would only get 40000 cfa (\$80). Now that my sheep are fatter I get 125,000 cfa (\$250) for just one. Furthermore, it was important for us to have some success come from the training – a lot of people in our village mocked us for attending an unpaid training because it took place during the busiest farming time of the year, and every hour we weren’t in the fields we knew we couldn’t get back. Because the training was successful, we have regained that respect from friends who didn’t participate, and we have had a lot of requests to join our cooperative.”*

MALI F2F: A GROWING MALIAN SEED COMPANY- ONE WOMAN'S SUCCESS MEANS THOUSANDS CAN EAT



Faso Kaba owner Maimouna Sidibe Coulibaly proudly shows her finished products

One woman's dream to help feed her home country is becoming a reality. What started as a home business selling a small quantity of seeds to neighboring farmers sprouted into a leading seed company that is making an important contribution towards improving food security in Mali.

Equipped with steely determination and vision, Maimouna Sidibé Coulibaly established Faso Kaba seed company in 2007, after nearly 20 years of work in the seed sector on a smaller scale. In a country where 20% of households face some level of food insecurity and 10% are severely food insecure, USAID and other donors have supported Mrs. Coulibaly as part of a critical effort to increase farmers'

access to high quality seed –which can change the lives of thousands of Malian families.

The idea for Faso Kaba came after Mrs. Coulibaly traveled to the U.S., where she saw first-hand the differences between higher yielding American crops versus the meager fields of most Malian smallholder farmers, and where she quickly learned the role that higher quality seeds can have in improving yields. Back in Mali, she proactively searched for researchers and funders willing to help tackle the lack of quality seed in country. After much perseverance, she received loans to run a small operation selling seeds to farmers, and two years later, she received a \$280,000 grant from AGRA to purchase new seed processing equipment and open an office and retail store. With this support, Faso Kaba was born.

Remembering her first in-depth interaction with AGRA, Mrs. Coulibaly exclaims, *“This was the best day of my life, to meet people who recognized my effort and appreciated my business!”* With the grant, Faso Kaba sold more than 100 tons of seed within its first year. Despite this initial success, Mrs. Coulibaly knew that in order to really make a difference in improving food security for her fellow citizens, she had to do more.

Seeing the potential of this emerging business, USAID's Farmer-to-Farmer and Mali Agriculture Value Chain Enhancement Network (MAVEN) programs (both implemented by ACDI/VOCA and Winrock International) agreed to further support Faso Kaba, leveraging AGRA's investment by strengthening the technical capacity, operations, and sustainability of the organization. Winrock sent two volunteer experts to provide training and technical assistance to Faso Kaba staff on improved seed production practices and the use and maintenance of new seed processing equipment, and to introduce hybrid seed production, which can result in a 25-40% increase in yields for maize and sorghum. Now that Faso Kaba is effectively using the new equipment and adopting the technical and business management recommendations made by the F2F and MAVEN volunteers, the company's processing operations have become more efficient and quality has improved. In 2012, Faso Kaba produced and sold more than 1,000 tons of seed -- ten times what the company sold when it first started -- at 800 CFA (\$1.60) per kg (as compared to 500 CFA per kg that the company earned in previous years). As a result, sales increased from \$338,292 in 2010 to \$2,178,516 in 2012.

Mrs. Coulibaly states, *“The volunteers helped me a lot. I was already involved in the business, but it was only after the volunteers came that I really understood. Now we are well known and distributing great quantities of seed.”* “Faso Kaba” roughly translates to “the country's rice”/“motherland rice” --fitting for

a company that now produces and sells enough seed to feed approximately half a million Malian people each year.

NIGERIA F2F: FEEDING FISH TO THOUSANDS OF NIGERIAN FAMILIES - INCREASED PROFITABILITY & MARKET ACCESS THROUGH VALUE-ADDED PROCESSING

Fresh water fish production has remained a highly productive venture in many parts of Nigeria. But with the recent security challenges in the north, where 60% of smoked fish consumed in southern Nigeria comes from, farmers and traders are facing difficulties in transporting smoked fish to the south. This gap has become an opportunity for fish producers and processors in the south.



Volunteer Hugh Thomforde demonstrates how to examine a water sample

keeping practices, and expanded marketing.

After the volunteer assistance, members realized that they would obtain higher prices with value-added smoking, as well as improved packaging and branding of their fish products. They also learned that smoking their fish at 400g would enable members to save on associated costs (e.g., cost of feeds). After adopting volunteer recommendations, the Association increased gross sales from \$3.6 million to \$8.4 million (133%) and increased net income from \$1.1 million to \$2.6 million (136%). Members are now conscious of how best to minimize cost and maximize profit.

As a result of its visible success, LASCAFA has also experienced a surge in membership. In the last couple of years following F2F support, the Association's membership has risen by 38% (from 800 to 1100).

LASCAFA's president Rotimi Omodehin asserts, "*[The F2F training] has impacted our professional life as we now have more knowledge in terms of managing our farms and keeping basic records; it has also made our presence obvious than it was before the coming of the volunteers. The knowledge we acquired from the training didn't just remain with us; we also shared it with other members of the group. The increased production activity and better marketing and pricing led to improved income, this also comes with improved standard of living for members of our immediate and extended families.*"

With millions of Nigerian families dependent on fish and fish products as a valuable source of protein, the benefits go beyond LASCAFA. The Association is now playing a more vital role in improving food security for its own members, as well as the 3,300 clients who purchase its fish.

The Lagos State Catfish Farmers Association (LASCAFA) is one of the foremost catfish producers' associations in Nigeria. To enable the members to meet the increased demand for fish, the Association came to F2F for help. Today, as a result of F2F training, LASCAFA and its members are thriving more than ever.

LASCAFA staff, along with members of other fish farmers groups, participated in hands-on training with two F2F volunteers. Volunteer Hugh Thomforde conducted training on hatchery techniques and water quality, while Karen Veverica conducted training on marketing strategies. The members are now

implementing several techniques taught by the volunteers, including improved feeding practices, improved water quality management, sound record

NIGERIA F2F: NEW HOPE FOR STAPLE CROPS FARMERS - F2F TRAINING-OF-TRAINERS STRENGTHENS THE LAUNCH OF A NEW PRIVATE EXTENSION ENTERPRISE

Kaliber Ventures Limited, a Nigerian-owned venture capital firm, had a goal to assist local farmers to increase their crop production and serve as an agent to bring farmers' produce to market. The company planned to serve farmers in the Ejiba area, which included a large amount of marginal and potentially arable land that was substantially underutilized. Eager to put their plan into action, Kaliber reached out to the government and other stakeholders but was not able to secure support to launch their initiative.

Two F2F volunteers helped make this goal a reality.

Dr. Usha Palaniswamy trained Kaliber staff, extension agents, and rice farmers on modern rice farming concepts, including crop rotation, soil management, seed nursery preparation and management, integrated pest management (IPM), post-harvest practices, and improved record keeping, to support year-round rice production. Likewise, John Lindquist provided training and technical assistance to Kaliber staff, extension agents, and local farmers on maize production, including maize growth and development, crop rotation and tillage, improved seed, fertility management, and IPM. These interactive training sessions increased the technical capacity of Kaliber staff and also helped facilitate initial interactions between Kaliber and area farmers who were in need of assistance.



Kaliber Ventures staff / farmers participating in F2F training with John Lindquist

The F2F assistance enabled Kaliber to launch its array of services and exposed its programs to stakeholders. As a result, the Federal Ministry of Agriculture and Rural Development (FMARD) has since engaged Kaliber Ventures to pioneer its irrigated rice program in Kogi state. To kick-start this program, Kaliber delivered two tractors, 15 tons of fertilizer, improved rice seedlings, and other inputs for distribution to a targeted 300 rice farmers, addressing a major constraint (lack of inputs) for these farmers who were previously struggling. The company is also providing tractor services, extension services, and training to farmers. In just six months, the company earned 4.5 million Naira (nearly \$30,000) in sales of services and inputs.

The 300 farmers supported by Kaliber are now beginning to see a ray of light and have hope for a better future. One farmer beneficiary commented, *“In the 10 years we have been farming, we have never seen a bag of fertilizer; all we got were promises that were never fulfilled. But now through the coming of the Farmer-to-Farmer volunteers, we have received not one, not 10, not 50, not 100, but 300 bags of this all-important input. We have entered a new era. God bless Farmer-to-Farmer and Kaliber!”* With Kaliber's support, some of the farmers produced up to 30 tons of maize.

Kaliber Ventures has also leased 1,000 hectares of farmland from the Lower Niger River Basin Development Authority for dry season maize and rice production. 100 hectares of this land will serve as a demonstration plot, with the remaining 900 hectares to be distributed to farmers. Kaliber hopes to expand to 4,000 hectares in the next five years.

Kaliber's Chief Operating Officer states, *“The manuals we got from the volunteers helped me offer advice to farmers and also enabled me to know more about extension service delivery in the agriculture sector. The F2F assistance has enhanced our visibility with the community and government, and increased the awareness of the community of the services we plan to deliver and how that will affect their lives.”*

NIGERIA F2F: SUPPORTING HONEY ENTREPRENEURS IN NIGERIA

In 1999, Mr. and Mrs. Adeshina noticed that there was an unmet demand for quality honey in Nigeria. She, an architect, and he, a materials surveyor, eventually quit their day jobs to start Arise & Shine International Ltd (A & Shine International), a now-thriving honey production business which sources material from 15 different beekeepers and employs 15 staff. With the help of two F2F volunteers, A & Shine has been able to create more cost effective systems and increased their net income by 86%.

A & Shine was established in 2000 after the owners attended training from the Technology Incubation Center in Nigeria. Ten years later, the company continued to operate, but the owners wanted to do more. With a goal to expand the business, diversify products, and secure additional financing, the owners asked F2F for technical assistance. Prior to its first F2F assignment in 2010, A & Shine struggled to achieve production and operational efficiencies and was unaware of its market reach. Volunteer Cliff Wener helped conduct a market survey and provided recommendations on technologies to increase productivity, internal operations related to staffing and accounting, and marketing and branding ideas. A & Shine immediately began to implement Wener's recommendations, such as introducing more efficient packaging and purchasing new processing equipment. Mrs. Adeshina explained, "The volunteer's visit make us look inwards and reassess the ways that we might cut costs and improve quality ourselves. Cliff Wener opened our eyes to see opportunities and solutions to problems that we have previously not noticed."



Volunteer Cliff Wener conducts training for A & Shine owners

Winrock also facilitated A & Shine's participation on the ITV agricultural talk show, for a live discussion on "commercialized production of honey through industrial honey clusters." The owners discussed the prospects of starting up a small scale honey processing unit as means of job creation and a solution to the unemployment problem in Nigeria. A & Shine had an increase in new clients and sales as a result of numerous calls received after the talk show aired.

Following Wener's assignment, the A & Shine owners learned that they had an additional fan - the President of Nigeria, Good Luck Jonathon, who liked their honey so much that he sent a team of government staff for a factory tour. Subsequently, Mr. and Mrs. Adeshina were awarded the National Productivity Award by the President, as well as a "Big Dreams Award" from the local area council.

In 2013, a second F2F volunteer worked with A & Shine (whose owners are now commonly known as "the Honey Couple") on improved beekeeping practices and product development. The knowledge they received from the two volunteers has given the business an edge over its competition. A & Shine received certification for meeting requirements of the relevant Nigerian Industrial Standards by the Standards Organization of Nigeria and proudly displays the Mandatory Conformity Assessment Program logo on all of its products.

Eager to share their success with others, the Honey Couple is now mentoring growing enterprise leaders under the on-going Youth Enterprise with Innovation in Nigeria (YouWiN) program of the federal government. A & Shine is also working to expand its production facilities. As Mr. Adeshina explained, "We cannot even keep up with local demand, but once we can meet that, we would like to expand

regionally and internationally.”

F2F WEST ASSOCIATE AWARDS

Since program inception ACDI/VOCA has marketed the F2F LWA worldwide, thus far we have been awarded seven associate awards, four of which have utilized the F2F WA LWA mechanism. Following the table below is a brief update on each of the F2F West Africa associate awards; Annex 6 includes volunteer indicator tables for F2F West Africa Associate Awards.

F2F West Africa LWA Associate Awards

| Country | Program Title | Start –End Date | LOP Budget | Obligated Amount by FY |
|-----------|--|--|---|---|
| Ghana | Ghana Agricultural Development and Value Chain Enhancement (ADVANCE) | 7/14/2009 – 7/13/2013 | \$32 Million Donor Cost \$2,039,911 Leverage Total Value: \$34,039,911 | FY09: \$12,000,000 FY11: \$4,843,732 FY12: \$8,016,877 FY13: \$7,786,187 |
| Jamaica | Marketing and Agriculture for Jamaican Improved Competitiveness (MAJIC); Jamaica Rural Economy and Ecosystems Adapting to Climate CHange (Ja-REEACH) | 1/29/2010 – 9/29/2014 (note extension from 9/29/2013) | \$14 Million Donor Cost \$395,447 Leverage Total Value: \$14,395,447 | FY10: \$1,220,000; FY11: \$1,231,000 FY11: \$271,000 FY11: \$160,000 FY12: \$1,670,000 FY13: \$1,611,652 |
| Mali | Mali Agricultural Value Enhancement Network (MAVEN) | 4/01/2010 – 3/31/2013; extended to 9/30/2013 | \$2.1 Million Donor Cost \$554,640 Leverage Total Value: \$2,672,107; changed to \$2,048,931 in FY13 | FY10: \$300,000 FY11: \$500,000 FY12: \$700,000 FY13: \$548,931 |
| Vietnam | Sustainable Cocoa for Farmers | 10/1/2011- 9/30/2014 | \$1,6 Million Donor Cost \$88,975 Leverage Total Value: \$1,688,975 | FY11: \$805,067 FY12: \$794,933 |
| Malawi | Market Linkages Initiative Bridging Activity (MLI-BA) | 10/1/2011 - 3/30/2013; extended to 09/29/2013 | \$1,100,000 Donor Cost \$29,610 Leverage Total Value: \$1,129,610 | FY12: \$1,100,000 |
| Indonesia | AMARTA II | 11/14/2011- 08/15/2013 | \$3,850,067 (changed from the original award of 19.9 Million) | FY12: \$3,850,067 |

GHANA ADVANCE ASSOCIATE AWARD

Objective: The core ADVANCE strategy to transform the agricultural sector in Ghana has been implemented in alignment with the FTF Ghana priorities. The aligned program maintained the core elements of the technical approach to benefit smallholder farmers by creating commercial opportunities through a market-driven, value chain approach. ADVANCE focused on end-market opportunities that provide compelling incentives for businesses throughout the value chain to invest in their respective sector, including upgrading their own performance. The aligned program continued to deepen ongoing work in the maize, soy and rice subsectors, reaching more farmers in the North by identifying new aggregators and nucleus farmers as partners and expanding their outreach. In FY13, the program has received a no-cost extension to be completed in January 2014.

Role of Volunteers: The ADVANCE volunteer program has achieved 5,911 volunteer days against an overall life of project target of 5,642 volunteer days. This achievement is 104% of overall project target. A total of 99 assignments have been completed since 2008 with 2,816 directly assisted beneficiaries as well as 65,447 indirectly assisted beneficiaries

Results: During the reporting period ADVANCE completed the final volunteer assignments for the program. Between October 2012 and March 2013, the project mobilized 14 volunteers to complete a total of 18 assignments (16 short-term and 2 long-term). From project inception ADVANCE has fielded 113 volunteers who completed 6,252 days of technical assistance. This exceeds the life of project targets of 80 volunteers and 5,983 days. The volunteers provided 294 days of technical assistance with local host organizations; working directly with over 512 beneficiaries (57 percent women). Volunteer assignments focused on four main topics: Business and Enterprise Development, Financial Services, Organizational Development and Farm Management, and Technology Transfer.

JAMAICA Ja-REEACH ASSOCIATE AWARD

Objective: The former MAJIC program originally focused on transforming Jamaica’s agriculture sector into a market-driven, competitive industry. In response to Jamaica’s high vulnerability to climate change, the program focus was revised to respond to the impacts of global climate change on Jamaica’s natural resources, lives and livelihoods. The Jamaica Rural Economy and Ecosystems Adapting to Climate CHange (Ja-REEACH) program goal is “to protect rural lives, livelihoods and ecosystems in targeted Jamaican communities affected by climate change through interventions that drive adaptation and build resilience.” Ja REEACH activities are organized into two objectives: (1) to improve the adaptive capacity of Jamaican partners and institutions to promote livelihoods and natural systems that are resilient to climate change and its impacts; and (2) to strengthen local and national institutions to support the processes of adaptation and sustainability.

Using site assessments and other data to evaluate vulnerability, exposure and sensitivity, the program prepares site and activity-specific action plans. Ja REEACH applies an integrated approach that recognizes that climate change poses both economic and social problems. The project works with beneficiaries and the broader community of stakeholders, including value chain members, partners and policymakers. The project continues to seek to ensure that traditionally marginalized groups and vulnerable populations—including single woman headed households and youth—are included and represented as both stakeholders and program participants. Ja REEACH continues to collaborate closely local partners, strengthening their ability to provide services all along the value chain to improve productivity beyond the life of the project.

At the time of reporting 1,743 project stakeholders had increased capacity to adapt to the impacts of climate variability either through increased knowledge learned in the climate smart field school programs or in other capacity building activities. These individuals benefited from over 3,700 person hours of training to increase awareness of climate change and specific resilience building strategies also recorded a 75% change in knowledge and awareness as a result of the training delivered. Of the persons with increased capacity to adapt, 1,600 persons in the community of New Roads, Westmoreland benefited from the rehabilitation of a water storage tank to increase resilience to the challenge of recurring drought. 1,530 persons were reached by the awareness building & outreach initiatives (exhibitions, workshops, trainings and informational displays) delivered during the performance period.

Major accomplishments:

- Prepared an agroforestry strategy for Ja REEACH and developed training content for a 14 module training curriculum for the Agroforestry Field School (AFS) program;

- Utilized a Develop a Curriculum (DACUM) workshop and stakeholder consultations to define the Climate Change Action Training (CCAT) curriculum;
- Mobilized 8 of 10 cocoa climate smart agriculture Farmer Field School (FFS) across the parishes of Portland and St. Mary involving over 150 cocoa farmers;
- Collaborated with the Ministry of Agriculture and Fisheries (MOAF), Rural Agriculture Development Authority (RADA) and the United Nations Food and Agriculture Organization (FAO) to train 20 RADA extension officer in the use of Integrated Pest Management (IPM) to address the Beet Army Worm outbreaks affecting Jamaica; and
- Trained 25 farmers and RADA extension agents in techniques for effective water resources management.

Role of Volunteers: The program mobilized two volunteers during the reporting period to complete unique assignments tailored to Ja REEACH program needs. Ja REEACH hosted a long term volunteer to coordinate closely with the University of the West Indies (UWI) to carry out a series of field based assessments to develop climate resilient agroforestry agribusiness solutions in targeted communities. The volunteer adopted a value chain approach to the assessments, analyzing tree fruit integration and developed economic profiles. The assignment was successful and resulted in a final report outlining proposed, innovative and appropriate agroforestry models appropriate to the discrete sociocultural and economic needs of the different communities.

In recognizing the need for additional human resources to assist in the development of community action plans using the communities engaged in disaster awareness a response (CEDAR) approach, within rural communities' islandwide, the Ja REEACH Project mobilized a volunteer to increase CEDAR implementation efforts. CEDAR works at the local level to not only identify adaptation solutions, but also to develop the mechanisms to ensure effective operations and access. The volunteer assisted in the prioritization of adaptation measures within selected communities and documented the valuable lessons learned throughout the implementation process.

Results: The two volunteer assignments contributed to the development of innovative and appropriate agroforestry models and scaling up of CEDAR activities. Combined, the two assignments resulted in 169 persons trained and 17 host institutions impacted.

MALI MAVEN ASSOCIATE AWARD

Objective: The objective of MAVEN is to facilitate agriculture sector growth through improved productivity and increased access to finance in targeted value chains.. Program activities to support this objective included technical assistance to improve production, post-harvest handling, processing, and marketing; improved business management skills of individual producers, producer groups, and agribusinesses; and increased access to quality inputs and finance.

Role of Volunteers: MAVEN built on efforts of the West Africa Farmer-to-Farmer (F2F) program in Mali, which is focused on strengthening the staple foods and small ruminant livestock subsectors. MAVEN activities provided an opportunity to expand the depth and breadth of impact. MAVEN supported USAID/Mali's FTF Strategy by focusing activities on livestock (cattle and small ruminants), and staple crops (millet, sorghum, and rice). These efforts contributed to improving Mali's food security and overall economic growth.

Results: Over the LOP, MAVEN leveraged the expertise of 78 volunteers, whose combined time is valued at \$678,590. Program hosts and beneficiaries also contributed almost \$68,000 worth of cash and in-kind support for MAVEN volunteers. These 78 volunteers supported 67 host organizations – including farmers' groups, women's groups, private enterprises, and agriculture training institutions. Through these efforts, MAVEN trained/assisted 5,872 individuals (48 percent women) and benefitted 4,741 households.

VIETNAM SUSTAINABLE COCOA FOR FARMERS ASSOCIATE AWARD

Objective: The overall goal of the project is to improve the economic well-being of Vietnamese smallholder farmers through the growth of a socially, economically and environmentally sustainable cocoa industry. This is achieved through an increased volume of sustainably produced cocoa, ensuring quality is met at all levels of the cocoa value chain, while transferring the cocoa development approach to local institutions. During the 30-month project, it is anticipated at least nine volunteer assignments will be carried out, focusing on productivity improvements, Farming as a Business and record keeping.

Role of Volunteers: In FY13, the project completed two additional volunteer assignments, bringing the total number of assignments completed to four. The volunteers worked with project beneficiaries to support two different aspects of the project's overall objectives. The first volunteer led a participatory training with SCF Training Facilitators that resulted in the development of a cooperative development strategy to build cocoa cooperatives from existing cocoa clubs. He recommended that each cocoa club be provided cooperative training on how to establish and manage a successful cooperative.

As a follow-up to the first cooperative development assignment, the second volunteer conducted four workshops that introduced cocoa groups to Western-style cooperative enterprises. The topics covered included principles and practices, comparisons to other business types, the benefits and requirements of members, and how to start a successful cooperative.

Additionally, the SCF project hosted a Mars Ambassador volunteer who worked with cocoa stakeholders (Nong Lam University, Cargill, Grand Place, Café Control, Dr Hau Can Tho University, and the Department of Agriculture and Rural Development) to develop a fermentary database that includes the following information: location, postharvest procedures and practices, and capacity. The MAP associate reviewed all existing databases and consolidated all the information into one database that can be referenced by all stakeholders, and can be used to estimate yield and production data.

Results: Through the four assignments completed to-date, the project trained a total of 157 beneficiaries directly, and 2,037 indirectly.

MALAWI MARKET LINKAGES INITIATIVE BRIDGING ACTIVITY (MLI BA) ASSOCIATE AWARD

Objective: ACDI/VOCA's Market Linkages Initiative Bridging Activity (MLI BA) began in November 2011 and is facilitating the development of the commodity trading sector by providing refresher trainings for grain bulking centers, by working with the Agricultural Commodity Exchange, Opportunity International Bank of Malawi (OIBM), and other partners to roll out a warehouse receipts program in Malawi, and by providing support to commercial price information and services through Esoko subscriptions. The MLI BA has budgeted for three volunteer consultants through our partner, CNFA.

Role of Volunteers: In Year 1, the MLI BA fielded one volunteer consultant to develop an interactive warehouse receipts model to help farmers, farmer organizations, and SME traders to understand the variables and make informed decisions about their use of the warehouse receipt financial instrument. Gerald Nolte completed this assignment in March 2012. During his 22-day assignment he met with partners to ensure that all costs and variables were understood and captured in the model. He then developed the model, trained an initial group of users on how to fill out the spreadsheet, prepared guidelines for future users filling out the spreadsheet, and provided suggestions for the spreadsheet's application. Mr. Nolte's model has increased users' abilities to calculate their projected returns from the

warehouse receipts instrument by letting them adjust variables such as amount financed, length of deposit, and sale price. With this spreadsheet they can make more informed decisions about their deposits and can maximize their returns.

In year 2, there were two volunteer assignments. One focused on developing financial projections for project-supported warehouse receipt sites; the volunteer consultant first visited the project sites and provided recommendations on improving management practices, then developed financial projections for the purpose of encouraging new investments in storage facilities. The second FY13 volunteer consultant conducted financial projections on the Esoko business model for Umodzi Consulting. The projections found that the Esoko model is viable with the current number of clients, but that commercial viability depends on attracting business from more profit-driven clients. Umodzi continues to market Esoko to potential clients to increase its customer base.

Results: The team made enormous strides towards achieving sustainable, structured, transparent trade in Malawi. Major milestones include private sector operation of a 28 market price enumeration network supplying real-time price information via SMS on a commercial basis; advanced negotiations with MNOs for a nation-wide subscription-based SMS service; GBC partners increased small holder commodity purchases via VACs over the year before; GBC partners conducted farmer field days training ~10,000 small holders in crop conditioning and marketing; ACE facilitated warehouse receipts system issued receipts on more than 5,000 mts of commodities; 573 mts directly from MSMEs stored at rural facilities; and WRS deposits leveraged ~\$100,000 USD in financing for MSME depositors.

INDONESIA AMARTA II ASSOCIATE AWARD

Objective: The AMARTA II project was originally designed as a 5-year project focused on improving the competitiveness of high-value value chains; increasing access to agricultural credit; and improving the policy and regulatory environment of the agribusiness sector. Due to funding constraints, the program has shifted focus and is no longer working to improve the policy and regulatory environment. With this change in program scope, the award for the program has been reduced from 19 mln to 15 mln over life of the project. In close collaboration with the Economic Growth Office of USAID, it was agreed that the AMARTA II project would work in the selected high value commodities including Arabica coffee (North Sumatra), cocoa (Sulawesi) and horticulture (Java and North Sumatra). AMARTA II's year 1 strategic focus centered on targeting upgrades in value chains through effective and efficient use of input supplies, improving access to finance and demonstrating proven technologies on farm (fertilizer inputs) and off-farm (drying and post-harvest processing technology). In FY12, the project laid the groundwork for launching a scalable initiative of developing ICT solutions to assist farmer group leaders, extensionists, and private sector field agents to more easily and effectively deliver information solutions relevant to the problems the farmers are facing in the field for all three value chains. The project continues to ensure that cross cutting issues such as gender and natural resource management are integrated across the project.

Due to shifts in donor priorities, the program ended two and half years early. The project officially closed on August 15, 2013 and program activities concluded in late June, 2013.

Role of Volunteers: During FY13, AMARTA II fielded one volunteer to conduct a market assessment for processed banana food products in North Sumatra. This two week assignment resulted in recommendations for processed banana products packaging and promotion strategies and recommendations for how to further generate sustainable income for women in rural Deli and Serdang (where bananas are grown).

Results: Due to the revised end date of the project, no data on results related to this assignment are available.