



# CARE-Cargill: PROCOCO GHANA

## FINAL EVALUATION



# FINAL REPORT

## Introduction

### Program Background

This is the final report for the CARE-Cargill global program with funding support from Cargill, Inc. For more than fifty years, Cargill and CARE have shared a commitment to promote opportunity and create lasting change for families living in extreme poverty. After a successful five-year phase of programming from 2008 until 2013, Cargill provided \$7,550,000 funding seven project countries globally: Ghana, Cote d'Ivoire, Egypt, Guatemala, Honduras, Nicaragua, and India. The newest phase of this global partnership, implemented from September 1, 2013 until August 31, 2016, built on many of the achievements from the first phase of programming while establishing new initiatives to meet our program goal: *prosperous and resilient communities*.

The program has four main components based on the following intermediate outcomes:

- ◇ **Increased quantity and quality of production**
- ◇ Key intervention: Building the production capacity of smallholder farmers in the supply chain
- ◇ **Increased access to equitable markets**
- ◇ Key intervention: Connecting producers to equitable markets
- ◇ **Increased food security and nutrition**
- ◇ Key intervention: Promoting food security and nutrition within communities
- ◇ **Well-governed and thriving communities**
- ◇ Key intervention: Addressing issues of governance, hazardous child labor, and education

The following report will evaluate the impact of **PROCOCO** in Ghana.

# Program Summary

## Rationale and Justification

In the past decade, Ghana has made significant reductions in extreme poverty prevalence with impressive economic growth. Agriculture is a key contributor of Ghana's success economically, accounting for 23 percent of the national GDP in 2012. The sector has grown significantly since 2007, benefiting from high international prices, particularly for its main exports such as cocoa. Cocoa is the most important export crop in Ghana, accounting for 8.2 percent of the country's GDP and 30 percent of total export earnings in 2010. The livelihood of about 6 million people, approximately one-fourth of the population, depends on the cocoa sector with cocoa production accounting for over 67% of household income. Despite impressive gains and sectoral achievements in agriculture, over a quarter of the population live in extreme poverty at \$1.25/day or less.

Underlying causes of poverty:

- ◇ Agriculture remains largely rainfall dependent and subsistence-based
- ◇ High vulnerability to climate change related stresses and shocks
- ◇ Many farmers are still dependent on rudimentary technology
- ◇ Low dietary intake that is either not providing the right nutrients or the required amounts of food

Three PROCOCO regions—Ashanti, Central, and Brong Ahafo are similarly characterized by agriculture dependent economies, coupled with high poverty rates and food insecurity. More than 25 percent of people live below the poverty line, with many families unable to produce or purchase enough diverse foods to eat. The PROCOCO Ghana regions also have disproportionately youthful populations resulting in enormous economic burden on the active working populations.

## PROCOCO-Ghana

### Project Goals, Implementation Strategies, and Results Highlights

Prosperous Cocoa-Farming Communities (PROCOCO) in Ghana sought to promote more prosperous, sustainable and resilient cocoa farming communities through a community development approach that engages civil society to increase cocoa production, reduce child labor, ensure food and nutrition security, and promote education in some of the country's most impoverished regions. PROCOCO, built on a previous five years of investment by CARE and Cargill, was implemented from September 2013 to August 2016 in 110 communities in four of Ghana's poorest cocoa producing districts. PROCOCO employed a variety of strategies to reach the global goal including:

- ◇ **Improving cocoa production capacities:** extension service delivery, Farmer Business School, training in good agronomic practices, GPS mapping, facilitating access to inputs for farmers, practical training on demonstration farms
- ◇ **Increasing access to savings, loans, and other sources of credit:** Village Savings and Loans Associations (VSLAs)
- ◇ **Improving knowledge, skills, and practices regarding nutrition:** social and behavior change communication and cooking demonstrations
- ◇ **Awareness and prevention of the worst forms of child labor:** community support for schools and child rights, development of school performance improvement plans and community action plans addressing child labor issues, social and behavior change communication, and school infrastructure construction and rehabilitation



The PROCOCO Ghana project was able to successfully reach the following results during the life of the project, from September 1, 2013 through August 31, 2016:

- ◇ **Increased access to assets, inputs, income, and services:** Mean assets index increased from .45 to .73, farmers *more than tripled* their income, both access to inputs and agricultural extension services *increased two-fold*.
- ◇ **Increased access to credit:** There was a *five-fold increase* in access to financial services.
- ◇ **Higher profitability of farmer products:** The percentage of farmers who have incorporated strategies to increase the value of their product and services improved from a baseline of 32% to 54.6%.
- ◇ **Increased business and financial management awareness:** Average financial literacy levels of farmers increased from 39.3% at baseline to 50%.
- ◇ **Reduced child labor:** The percentage of children engaged in child labor, including hazardous labor, *nearly halved*, from 16.2% at baseline to 9.3%.
- ◇ **Increased primary school enrollment rates:** Primary school enrollment rates increased from 95.6% to 99.6%.

With these findings as supporting evidence, the project made significant progress toward the goal of prosperous and resilient communities. Despite a 10% mean reduction in cocoa yield and unfavorable weather conditions among individual farmers, cocoa producing families have still managed to triple their income through income diversification and steady growth in the price of cocoa. This demonstrates their capacity to absorb climate-related stresses and generate sufficient income despite devastating periods of drought. These families now have more access to assets, capacities, financial capital, and services that will continue provide them with the resources they need in the event of unforeseen shocks and stresses within their communities.

## Stakeholders

### CARE, Government, Local Institutions, and Private Partners

#### Cargill Cocoa & Chocolate:

The Cargill Cocoa Promise is committed to improving the livelihoods of farmers and their communities in ways that enable them to deliver more cocoa in the long term and secure a thriving cocoa sector for generations to come. Cargill Cocoa and Chocolate provided direct support and expertise to the program.

#### Government of Ghana

The Ghana Cocoa Board (COCOBOD), Ghana Education Service, Cocoa Health and Extension Division, Ministry of Food and Agriculture, Ghana Health Service, Department of Social Welfare, and District Assemblies were all main partners of the project.

#### CARE Ghana

CARE Ghana was the lead implementing organization for the project in Ghana through its office in Kumasi and field offices. The country office was responsible for the following:

- ◇ Coordinated project activities with its government counterpart at national and district levels.
- ◇ Provided technical support and training to project partners and community groups.
- ◇ Developed annual work plans, compiled reports for monitoring budget and project progress.
- ◇ Monitored risks associated with the delivery of the program and their impact on the project activities.

#### CARE USA

CARE USA was legal responsibility for the project, abiding by all contract terms and conditions. Headquarters was responsible for the follow:

- ◇ Maintaining contact with Cargill and other donors, project management, administration, implementation and quality assurance
- ◇ Provided support to country office teams to implement the project's strategies and achieve overall goals
- ◇ Provided oversight of project monitoring, reporting on results and lessons learned
- ◇ Facilitated knowledge sharing across projects
- ◇ Provided technical support on agriculture, nutrition, gender equality, and project monitoring and evaluation.

## Beneficiaries

The project in Ghana was implemented in 110 communities across three regions, in four districts including: Ahafo Ano South, Ahafo Ano North, Tano North, and Asikuma Odoben Brakwa.

PROCOCO worked with the following impact groups:

- ◇ **Cocoa farmers and their families**
- ◇ **Parents, students, and teachers**

### PROCOCO Direct and Indirect Beneficiaries

COUNTRY	No. Direct Beneficiaries	No. Indirect Beneficiaries
GHANA	6,454	37,433



## Governance Structure

Project support and delivery was led by CARE Ghana, with general support and oversight of the project provided by CARE USA, with project delivery and decision-making jointly shared between CARE USA and CARE Ghana. All full-time staff associated with the project, with the exception of a global Monitoring and Evaluation Officer, were based in Ghana, and were recruited locally. They were based in either CARE's country office headquarters or field offices in the respective regions of the interventions, and worked closely with strategic public and private-sector partners at the regional, district, and local level.

In PROCOCO-Ghana, CARE Ghana supported the project in its operational, technical and financial management efforts by CARE Ghana's Country Director and Assistant Country Director. The project was led by a Project Manager, and implemented by four Project Facilitators, four Field Agents and a local Monitoring and Evaluation Officer, in close coordination with their government counterparts at all levels. The *Join My Village* Media Officer also reported on the success stories of the project and provided other communication support.

## Evaluation Design

### Sampling

To assess the change in key outcome and impact areas as well as critical change levers, a mixed-methods approach was adopted. The end line evaluation employed a combination of quantitative and qualitative methods to assess project achievements as well as to gain an in-depth understanding of the underlying factors contributing to any observed chang-

es. The methodology used thus facilitated the assessment of the magnitude of project performance as well as insights into why the project interventions produced the observed change. A mix of probability and non-probability sampling techniques were utilized. Under these methods, a representative sample of farmers were reached with a quantitative survey while focus group discussions and key informant interviews were held with farmers and other stakeholders to validate key findings in the quantitative survey results and gauge the extent of contribution of the project interventions on the observed impact. To ensure that the sample size was representative and generalizable to the target population, a stratified simple random sampling approach was undertaken, proportionate to the size of the population. The sample was based on a 90% precision, 80% power, 2% expected non-response rate, and 5% loss in follow-up. The sample was a stratified multi-stage sample.

The surveys were “beneficiary-based”, drawn randomly from sample frames composed of all households with VSLA members in the sampled communities who were also cocoa farmers. Where there were no VSLA members, farmer collective members who cultivated cocoa were interviewed. The three operational regions: Ashanti, Brong Ahafo and Central are represented in the strata of the study. The stratification allowed a comparison of project impact between regions. The sample size for each district as well the communities visited are provided in the table below.

REGION	DISTRICT	NO. HOUSEHOLDS SAMPLED
Ashanti	Ahafo Ano North	101
Ashanti	Ahafo Ano South	101
Brong Ahafo	Tano North	101
Central	Asikuma Odoben Brakwa	102
Total		405

## Performance Assessment

### Project Implementation

#### Output 1.1: Farmer Business School trainings organized with cocoa farmers

The Farmer Business School trainings were organized for cocoa farmers with the aim of developing farmers’ skills and competencies in business approaches to cocoa production; improving their knowledge of managing finances and their businesses, changing their attitudes towards farming as a business and producing for the market. At the end of the training farmers received certificates as evidence of their participation and knowledge acquired. The Farmer Business School offered farmers the opportunity to be trained in good financial principles, business approaches to cocoa farming, and ultimately help them to profitably carry out their farming activities. In collaboration with Cocoa Health and Extension Division (CHED), 2,810 farmers from 74 communities completed the Farmer Business School’s week long training in entrepreneurial and management skills where skills were built through a “learning by doing” approach.

Indicator	Disaggregates	Total Project
# of m/f farmers completing FBS training	1,570 m 1,240 f	2,810

## Output 1.2: Cocoa farmers reached with extension services regarding good agronomic practices

Extension services on good agronomic practices play a key role in ensuring cocoa farmers cultivate healthy and productive cocoa trees. In collaboration with the Cocoa Health and Extension Division, farmers are educated on good agronomic practices such as nursery establishment and management, shade management, pruning, weed management, fertilizer, fungicide and insecticide application, assessment of cocoa quality, harvesting, pod breaking, fermentation, and drying. Sixty-two demonstration farms were established and maintained to support the training on good agronomic practices across the four project districts. Seventy-eight local cocoa facilitators have also been trained in collaboration with the Cocoa Health and Extension Division to promote quality extension service delivery to farmers. This intervention was initiated based on the low extension agent to farmer ratio (1 to 1,200 farmers). This intervention was a community-led approach which has improved the adoption of good agronomic practices in cocoa farming. Farmers were educated on good agronomic practices through group meetings, on demonstration farms, home visits, and rallies. The Cocoa Extension Agents with support from 78 (3 women and 75 men) local cocoa facilitators, reached a total of 5,938 farmers (including 39.1 per cent women) with extension services on good agronomic practices on demonstration plots and individual farms.

Indicator	Total # Cooking Demonstrations	Total Participants
# of m/f farmers receiving extension services	3,616 m 2,322 f	5,938

**Sixty-two demonstration farms were established and maintained to sustain practical training on good agronomic practices across four project districts.**

## Output 1.3: Agricultural inputs provided to farmers

The provision of agricultural inputs to cocoa farmers is part of the government of Ghana's initiative to supply cocoa seedlings and other inputs, such as fertilizers and insecticides, to farmers during the planting seasons to increase farmer yield. The project facilitated the mapping of project farms which was a criterion for accessing the free agricultural inputs. Throughout the project, 2,107 farms were mapped covering a land area of 1,344.63 hectares. As part of the mapping exercise, 3,894 bags of granular fertilizer (So Aba Pa) were distributed to 250 farmers in 15 beneficiary communities in the project districts. A total of 3,278 liters of liquid fertilizer (Lithovit) were also distributed to 453 farmers in 40 communities.

Indicator	Total Project	Total # Farmers Receiving Input	Total # Communities Reached
# bags of granular fertilizer distributed	3,894	250	15
Liters of liquid fertilizer distributed	3,278	453	40

#### Output 1.4: VSLA groups created

CARE’s goal of “voice, access and dignity for the poor and vulnerable especially women” has led CARE Ghana to find a comprehensive solution to poverty in cocoa farming communities. The integration of the Village Saving and Loans Associations (VSLAs) initiative in the project is to establish a savings culture and enhance financial literacy of rural cocoa communities to reduce their vulnerabilities and broaden economic opportunities. VSLAs are self-managed groups that do not receive any external capital and provide people with a safe place to save their money, access small loans, and obtain emergency insurance. The approach is characterized by a focus on savings, asset building, and the provision of credit proportionate to the needs and repayment capacities of the borrowers. A total of 2,180 farmers (909 men, 1,271 women) have been financially empowered through the establishment of 89 VSLAs, with farmers saving GH¢437,426 (\$112,160.51). A total of GH¢286,752 (\$73,526.15) was disbursed as loans which are mainly used to support agricultural activities and other businesses. VSLAs have shown to be an effective way to organize farmer communities and increase their economic stability – especially among women.

Indicator	Total Project	Indicator	Total Project	Indicator	Total project
# of VSLA groups created	89	Total amount in savings (USD)	\$112,160.51	Total amount dispersed in loans (USD)	\$73,526.15
Indicator	Disaggregates		Total Project		
# of m/f VSLA members	909 m 1,271 f		2,180		

#### Output 1.5: Trainings conducted with Village Agents on sustainability and expansion of existing VSLAs

The Village Agents model is a low-cost model designed to ensure the self-replication and sustainability of VSLAs in the project communities. Experienced VSLA members, called Village Agents or VAs, are trained by CARE to establish and train new VSLAs for a fee paid by the members of the groups they serve. VAs are men or women who having participated in a VSLA, understand the methodology, and can teach it to others. They must be minimally literate and have good people skills, energy, commitment, and leadership qualities. They receive training based on the VSLA guide for field officers and support from their supervisors. The training consists of an introduction to training techniques and reinforcement of VSLA procedures. Once the VA has achieved a reasonable level of skill and a solid foundation of associations, the Field Officer who trained, mentored, and supervised the VA can be relocated to start more VSLAs in a new area, while the VA continues to form new groups. Forty-six VAs have been trained in the Tano North and Ahafo Ano South districts to sustain and expand VSLA reach in project communities.

Indicator	Districts	Total Project
# of village agents trained on sustainability and expansion of VSLAs	Tano North Ahafo Ano South	46

## Output 2.1: Cooking demonstrations conducted with community groups

Community-level nutrition education was designed to help families with limited resources to make food choices that will improve their diet and health by providing hands-on learning activities, demonstrations, and discussions. Participatory cooking demonstrations is a powerful tool the project used to help families plan and prepare nutritious meals, manage their food and cash resources wisely, select seasonal vegetables and fruits, process available surpluses, and handle food safely. A total of 37 cooking demonstrations were conducted for 2,417 people to promote improved child and family feeding recipes using locally available foods that most families can afford to buy or produce on their farms or in their gardens. During the demonstration, the steps and nutritional messages are clearly explained and all participants are able to see the tasks that are being performed. Participants join in meal preparation by cutting vegetables, pounding and mixing ingredients, and cooking different dishes. This involves learning about combining diverse foods to enhance nutritional value and variety, adding ingredients in the right proportions by using local measures, ensuring correct cooking times, and handling and storing foods safely.

Indicator	Total # Cooking Demonstrations	Total Participants
# of cooking demonstrations and m/f participants reached with cooking demonstrations	37	2,417 (879 m, 1,538 f)

This involves learning about combining diverse foods to enhance nutritional value and variety, adding ingredients in the right proportions by using local measures, ensuring correct cooking times, and handling and storing foods safely.

## Output 2.2: Cocoa farming project communities educated on optimal nutrition practices and ways to address food insecurity

Nutrition promotion in the project communities requires sufficient knowledge and skills needed to grow, purchase, process, prepare, eat and feed their families a variety of foods, in the right quantities and combinations. By training Community Health Volunteers and Animators, the project provided education to 4,072 community members (2,382 females, 1,690 males) through channels such as VSLA meetings, community durbars, home visits, growth monitoring and promotion, and meetings of faith based organizations. Training included what constitutes a nutritious diet and how people can best meet their nutritional needs from available resources. This has minimized the taboos and poor understanding of the relationship between diet and health which can adversely affect nutritional status. One hundred farmer group leaders were also trained on the multiplication of plantain suckers to roll out plantain production to boost household food production and consumption.

Indicator	Disaggregates	Total Project
# of m/f community members trained on optimal nutrition practices and ways to address food insecurity	1,978 m 3,675 f	5,653

This has minimized the taboos and poor understanding of the relationship between diet and health which can adversely affect nutritional status.

**Output 2.3: Training of Trainers conducted with Community Health Volunteers and Community Animators on nutrition counseling and use of counseling cards developed to support capacity building and social and behavior change communication activities**

Critical shortages in the health workforce in many developing countries, specifically the number, skills and geographic distribution of health workers, pose a significant challenge to the achievement of universal health coverage. Increasing attention has therefore been focused on the potential of Community Health Volunteers (CHVs) to expand access to essential health services at the community level. A Training Of Trainers (TOT) was organized for 192 Community Health Volunteers and Community Animators in collaboration with the Ghana Health Service (GHS) and Women in Agriculture Development (WIAD) to provide nutrition and health education at the community level thus improving nutrition security in remote regions. One hundred and fifty sets of nutrition counseling cards were produced to support capacity building and behavior change communication interventions in project communities, using local channels such as VSLA meetings, community meeting, faith based organization activities, and home visits. A three-day training workshop was also held for the project team and key stakeholders from the Ministry of Food and Agriculture (MoFA) in the four Cargill project districts. The workshop was a ToT which gave the project team and key stakeholders background knowledge, skills, and experience in nutrition and gender integration to provide education and technical assistance to Agricultural Extension Agents (AEAs), farmers and school children in the project communities. This facilitated the initiation of the nutrition sensitive agriculture in all the project districts.

Indicator	Total Project
# of nutrition counseling card sets produced	100
# of m/f CHVs and CAs trained on counseling cards use	192 (122 m, 70 f)

**Output 3.1: Key stakeholder meetings held on child education, rights, and protection**

As part of efforts to promote child education and eliminate child labor, the project conducted an assessment of the organization and management capacities of Parent Teacher Associations (PTAs) and School Management Committees (SMCs) and built the capacities of 159 PTAs and SMCs executives in Ahafo Ano South and Tano North districts. The participants were taught the educational policies and systems in Ghana, the role of PTAs/SMCs in school improvement, nutrition and gender integration, child labor issues, school governance and community organizational development approaches, and development of school performance improvement plans. The project also trained 1,222 teachers in quality teaching and learning methodologies, food and nutrition security, gender integration strategies, and child labor prevention strategies. In collaboration with the District Directorate of the Ghana Education Service and Cocoa Health and Extension Division, the project reached 6,400 people through 90 meetings on child rights and education in 85 communities. Communities also benefited from further dialogues on child labor, where farmers learned and discussed what work is appropriate for children (in line with ILO guidelines), and exchanged ideas on child protection and its promotion. These interventions have contributed to reduced child labor and access to child education in the project communities.

Indicator	Total Project
# of key stakeholder meetings held on child education, rights, and protection	90
# of quarterly district meetings held with project advisory committees	6

### Output 3.2: Youth cocoa reading clubs created with school children

The cocoa reading clubs is an initiative piloted in five schools in Tano North, Ahafo Ano North and South districts with 287 members (137 boys, 150 girls) where students come together to learn how to read, express themselves better, and where an interest in cocoa farming is promoted. The reading clubs have helped address some of the thorny issues such as eliminating child labor in selected communities, boosting the pupils' interest in cocoa production, and equipping them with reading skills.

Indicator	Districts	Total Project	Total Participants
# of youth groups created	Tano North Ahafo Ano North Ahafo Ano South	5	287 (137 m, 150 f)

### Output 3.3: Community educational infrastructure constructed and rehabilitated

Communities are empowered to identify their community's priorities, develop an action plan for their own development, and seek resources to implement it. Resulting actions such as improving livelihoods, empowering women, and promoting education help to create an environment where children are protected. Through an innovative grant from Cargill, the project supported the implementation of community prioritized needs in promoting child education. The infrastructure support included the construction of six kindergarten school blocks, two school libraries, two teachers quarters, a toilet facility, borehole, and computer laboratory in the Asikuma Odoben Brakwa, Tano North, Ahafo Ano North and South districts.

Indicator	Communities	Total Project
# of kindergarten school blocks constructed or rehabilitated	Abehenase, Abuakuwa, Kokoado, Mankranho, Atudurobesa,	2
# of school libraries constructed or rehabilitated	Koforidua, Dotoam,	2
# of teachers quarters constructed or rehabilitated	Assenchem, Boateng-krom, Betinko,	1
# of latrine facilities constructed or rehabilitated	Barniekrom, Nsuta	1
# of boreholes constructed or rehabilitated	Nyamebkyere	1
# of computer laboratories constructed or rehabilitated		



## Program Outcomes

### Objective 1: Increased quantity and quality of production

#### IO 1.1 Increased application of good agronomic practices and new technologies

Indicator	Baseline	End line	Target	% Difference
% of farmers who have applied new technologies and/or management practices promoted by the program in the last 12 months	68.74%	70.28%	85%	+(1.54%)

In an effort to increase cocoa productivity, PROCOCO sought to improve the knowledge of farmers and promote the uptake of improved technologies and practices through agricultural production capacity building. Some of the promoted agricultural practices and technologies included lining and pegging, nursery management, pest and disease control, pruning, rehabilitation, and shade management. Overall, the end line evaluation shows an increase of 1.5% in application of management practices and technologies promoted through PROCOCO production capacity building activities. This marginal increase is indicative of no significant project impact on the adoption of agronomic practices or new technologies in cocoa production among most farmers in the project. The observed outcome could be a result of a relatively high baseline figure. Most farmers (68%), were already using the targeted agronomic practices and technologies before the project started. The minimal change in adoption of good agronomic practices or new technologies from the baseline could also partly be attributed to reported difficulty carrying out practices and lack of access to inputs as indicated by some farmers in several focus group discussions. Pruning and shade management both showed increases in adoption, while all other practices are characterized by relatively large reductions. Farmers gave several reasons for not adopting the newly introduced agronomic practices and technologies including difficulty lining, pegging, and managing disease:

#### Black pod control:

- “The practice of disease (black pod) control was too difficult to perform because it takes a lot of time and energy to implement. They taught us to go around the whole farm to pluck and gather all the infected cocoa pods before digging a pit away from the farm and bury them”

-Martha Serfa, 58, Female farmer

#### Lining and Pegging:

- “I had difficulties practicing the lining and pegging method of planting because it created an avenue for more weeds to grow. Sometimes the

line spacing requires you to replant some cocoa seeds again because when we use the 10 feet method, not all the cocoa seeds grow well and for that matter it leaves an empty space for more weeds to grow on the land.”

- Yaa Ensia, 52, Female farmer

- “I was unable to apply the lining and pegging method because I am a woman and a single parent so I didn’t get someone to help me do it.”

- Akua Asaswa, 75, Female farmer

Agronomic Practices	Baseline	End line	% Difference
Lining and pegging	73.0%	53.3%	(-)19.7%
Nursery management	69.7%	53.3%	(-)16.4%
Pest/disease control	75.0%	68.1%	(-)6.9%
Nursery management	68.0%	72.6%	(+)4.6%
Rehabilitation	71.6%	52.1%	(-)19.5%
Shade management	68.2%	69.1%	(+).9%
All	68.74%	70.28%	(+)1.54%

While there was resistance in adopting certain practices, farmers reported being motivated by specific agricultural practices and production capacity building activities, specifically project demonstration plots.

### Demonstration plots

Demonstration plots were seen as most effective in influencing farmers to improve their agricultural practices. Farmers cited being more receptive to change after observing the practices implemented on the plots.

**“What motivated me was that previously, when I plant my cocoa seeds most of them don’t grow well, some even died. But when I saw how the cocoa on the demonstration farms yielded, it motivated me to implement the practices.” - Ama Grace, 60, Female farmer**

### IO 1.2 Increased access to extension services

Indicator	Baseline	End line	Target	% Difference
<b>% of farmers who have benefited from a quality agricultural/livestock extension service during the last 12 months</b>	31.3%	75.6%	80%	+(44.3%)

Access to extension services by farmers is another essential factor which may have influenced the adoption of agronomic practices or new technologies, access to inputs, and overall cocoa productivity. Extension service agents facilitated the distribution of inputs such as fertilizer and improved seed varieties while also promoting key agricultural practices in cocoa production. Overall the proportion of farmers who benefited from a quality agricultural or livestock extension service during the last 12 months improved from a baseline figure of 31% to 75% at end line. The impact was, however, more pronounced in Ahafo Ano South district compared with other districts, increasing from 35.7% to 93.7% at end line. Additionally the average number of times a farmer met with an agricultural extension worker in the last 12 months nearly doubled, increasing from a baseline figure of 2.53 to 4.7 at end line. Almost half of farmers at end line (48.90%) met with an extension agent more than three times. The project not only contributed to broader reach of extension services, but increased frequency of visits to each individual farmer. COCOBOD played a key role, increasing the size of the operational district of the Cocoa Health and Extension division as well as the number of staff across the districts. To close the officer-farmer gap, COCOBOD increased the number of extension staff by 35%. In addition, in focus group discussions, farmers described benefitting from extension services in a variety of ways and many cited greater access to hybrid cocoa seeds, access to inputs like fertilizer, and improved knowledge regarding nursery management. Farmers cited hybrid seed distribution by extension agents as a major benefit of extension services.

### Introduction of Hybrid Seeds

“The yield of the newly hybrid seedling we were introduced to was higher than the Tetteh Quarshie [Amelonado cocoa pods]. The hybrid seedlings take just three years to harvest but Tetteh Quashie takes more than five years”

**- Nana Adjei, 53, Male farmer**

**“Through the leaders of CARE, we have been able to acquire some farm inputs such as fertilizers and chemicals from the agricultural extension officers.” - Esther Afriyie, 35, Female farmer**

### IO 1.3 Increased access to agricultural inputs

Indicator	Baseline	End line	Target	% Difference
<b>% of farmers who improved their access to agricultural inputs</b>	32.87%	65.3%	60%	+(32.43%)

PROCOCO also provided support to farmers by increasing access to different types of agricultural inputs such as land, seeds, agricultural tools, machinery, and other miscellaneous inputs such as fertilizer and pesticides for cocoa production. On average, farmers doubled their access to inputs, with access increasing from 32.87% at baseline to 65.3% at end line. Interestingly, more than 89% of farmers report having access to land and 84% of farmers report having access to seeds. Despite these successes, low rates of access to machinery and other inputs such as herbicides, insecticides and pesticides still persist among PROCOCO farmers. There also is evidence of disparities between men and women farmers. While access to land, seeds, and machinery for cocoa production is relatively equal among male and female cocoa farmers, women are less likely to have access to productive tools and other inputs for cocoa production—a disparity that constrains and will continue to limit women farmers’ productivity.

District	Access to Land	Access to Seeds	Access to Tools	Access to Machinery	Access to Other Inputs
<b>Ahafo Ano South</b>	93.0%	80.0%	95.5%	29.0%	27.0%
<b>Ahafo Ano North</b>	92.2%	79.4%	93.1%	32.4%	28.4%
<b>Tano North</b>	83.2%	84.2%	89.1%	41.6%	20.8%
<b>Asikuma</b>	89.2%	93.1%	93.1%	51.0%	12.7%
<b>Gender</b>					
<b>Male</b>	90.9%	83.3%	95.5%	38.9%	28.8%
<b>Female</b>	87.9%	85.0%	89.9%	38.2%	15.9%
<b>Total</b>	89.4%	84.2%	92.6%	38.5%	22.2%

### IO 1.4 Improved financial management knowledge regarding saving and borrowing among farmers

#### IO 1.5 Increasing access to savings, loans, and other sources of credit

Indicator	Baseline	End line	Target	% Difference
<b>Average financial literary score of farmers</b>	39.3%	50.0%	65%	+(10.7%)
<b>% of farmers with access to at least one form of financial service</b>	14.22%	79.5%	50%	+(65.28%)

Most agricultural production is by nature seasonal and depends on access to a quality resource base or else it would be vulnerable to pests and spoilage leading to low productivity. For smallholder farmers to achieve higher productivity, timely

access to short-term finance for inputs such as seeds, fertilizer, pesticides, herbicides, machine services, transport, labor, and fuel is fundamental. The seasonal nature of cocoa production implies that all input costs are incurred before the harvest and farmers sometimes need to borrow up to 60% of their harvest income upfront since they are usually liquidity constrained and need credit. Due to the financial risks, this type of finance is often unavailable to cocoa farmers and can limit the productivity and quality of their production, not to mention their capacity to adopt better technologies and expand their businesses. The project has focused on improving knowledge of financial management and available financial resources while increasing access to financial services among small-holder cocoa farmers. The strategies employed were mainly Farmer Business School and wide-spread development of VSLAs across the project communities.

Through Farmer Business School, farmers learned about different pathways through which to save money as well as how and where to access loans. The project has succeeded in increasing general knowledge among farmers as shown by the 10.7% increase in average financial literacy scores among PROCOCO farmers. In addition to assessing their knowledge on key financial management practices, farmers were asked about how and where farmers save their money.

Although farmers used various saving mechanisms at baseline, there was significant change in utilization at end line, with 87% of farmers using VSLA as their primary savings mechanism. There has also been an increase in the proportion of farmers' savings via formal banks, from 23.1% at baseline to 32.6% at end line. Moreover, among farmers who reported holding household savings, women significantly engaged in more saving practices compared to men. At end line, 91% of all the women surveyed reported membership in a VSLA group. Overall, the proportion of farmers

Objectives for Saving	Baseline	End line	% Difference
Saving for business	1.9%	16.1%	(+)14.2
Planning for retirement	1.4%	4.7%	(+)3.3
Child education	35.0%	55.6%	(+)20.6
To avoid wasting money	55.0%	17.1%	(-)37.9
Emergency fund	31.5%	64.3%	(+)32.8
Health needs	30.1%	19.9%	(-)10.2

who reported accessing at least one form of financial service in the last 12 months increased five-fold, from a baseline figure of 14.22% to 79% at end line. The project has contributed to vast improvements in knowledge of and access to financial services among men and women cocoa farmers. People are not only more knowledgeable about how to access and manage their finances, but they are actively applying their knowledge to save and invest in their farms, their families, and their households.

**Access to Loans:**

◇ “The formation of VSLA group has helped me to contract loans for investing in my farms.”

- **Akwasi Owusu, 60, Male farmer**

**Farm Expansion:**

◇ “The VSLA has really helped me because I was able to take a loan to expand my farm. Now I have added other food crops such as plantain, maize, yam, cocoyam, tomatoes, pepper, okro, orange and pineapple. ”

-**Akua Maasa, 53, Female farmer**

**Safety Net:**

◇ “By the help of CARE, I am able to have access to credit facilities from the savings group in times of financial difficulties.”

- **Elizabeth Adu, 45, Female farmer**

Access to financial education has transformed how PROCOCO Ghana farmers are thinking about the future, with savings objectives changing dramatically from the beginning of the project. The proportion of farmers saving for their businesses, education and emergencies significantly increased over the life of the project. Specifically, there was an eight fold increase in the percentage of farmers saving for business. Another interesting observation is the reduction of savings towards health needs, from 30% at baseline to 19% at end line. While it is unclear why saving for health needs has decreased, one likely explanation is that farming communities are healthier and more resilient. The majority of respondents are not only saving for emergencies but are now prioritizing their businesses and children’s education. This could be indicative of successful child protection and nutrition programming supported by the project through VSLAs.



## Ultimate Outcome 1: Increased Quantity and Quality of Production

Indicator	Baseline	End line	Target	% Change
Yield per unit of land (kg/ha)	466.3 kg/ha	420 kg/ha	560 kg/ha	-(9.9%)

While the aforementioned activities aimed to promote higher cocoa productivity, climate variability had an unforeseen impact on individual farm production. While the total quantity in tons of cocoa produced collectively among the project farmers increased from 4,216.6 tons at baseline to 4,792.2 tons at end line, this is due solely to the fact there were 1,314 additional farmers involved in the project at end line. If we disaggregate this data by production per unit of land, farmers are actually producing 9.9% less cocoa per hectare than at baseline. A similar decline was observed during the 2014-2015 season, with cocoa yield per hectare decreasing by 3.7% among PROCOCO-Ghana farmers. This steady decline in production is aligned with observations across the entire cocoa sector in Ghana, with total production down by 19% from 2012-13 to the most recent 2015-16 season. Even though few farmers saw gains in cocoa production, losses were significantly less than what was observed across Ghana's cocoa sector; a demonstration of farmer's resilience to climate related shocks. PROCOCO Ghana farmers were able to minimize their losses to 9.9%, while farmers across the country experienced nearly twice as much loss on their farms. Moreover, value addition activities contributed to a significant increase in the proportion of farmers who have increased the value of their products or services through sorting, grading, processing, or packaging their cocoa post-production. This alone significantly contributed to their income generation during a period of uncertainty on their farms.

Indicator	Baseline	End line	Target	% Difference
% of farmers who have increased the value of their products/services	32.9%	54.6%	50%	+(21.7%)

Focus group discussions revealed that changes in rainfall patterns have had a significant influence on cocoa yield and subsistence food production. According to farmers, rainfall has been erratic in recent years, tremendously affecting their farm production. Additionally, the untimely distribution of hybrid seedlings affected planting times for farmers, not allowing for sufficient exposure to already minimal rainfall available.

### Drought:

- ◇ "Rainfall was inadequate this season and this did not help us to see the results on my farm."  
- David Mensah, 40, Male
- ◇ "We tried to nurse some cocoa seedlings but due to poor rainfall pattern, all the seedlings could not survive. This has affected our yield."  
- Mary Bila, 70, Female farmer
- ◇ "CARE International gave us hybrid seeds to plant in our farms but due to poor rainfall pattern all the seedlings were destroyed. On three different occasions since 2013 till date have we got hybrid seeds from CARE but the seedlings did not survive due to poor rains. The old non-hybrid seeds which we used to grow can withstand harsh weather conditions even when planted randomly."  
- Abdul Malick, 69, Male farmer

### Untimely Input Distribution:

- ◇ "The hybrid cocoa seedlings are not given to us early and our rainfall pattern have been really poor this season. So because the hybrid seedlings were given to us late, most of them could not grow well."  
- Lakyiatu Abdullamanu, 47, Female farmer

## Objective 2: Improved Food and Nutrition Security

### IO 2.1 Increased awareness in nutrition and food security

PROCOCO worked with 5,653 individuals to improve nutrition practices and address food insecurity in their local communities. To assess respondents' awareness of food and nutrition security, farmer families were asked whether they had heard about proteins and vitamins as well as common symptoms associated with an imbalanced diet. The percentage of respondents who reported hearing about vitamins increased from 34.1% at baseline to 57.3% at end line. Similarly there was a 3.4% increase in the percentage who reported hearing about proteins. Additionally there was an increase in both the percentage of respondents aware of anemia, obesity, and stunting as consequences of an imbalanced diet. Focus group discussions with parents of young children (5 to 15 years) also suggest that PROCOCO food and nutrition security training has been beneficial, specifically regarding their children. Families indicated that they initially had very little knowledge about the nutritional benefits of certain foods, specifically fruits and vegetables. The training they received as beneficiaries of PROCOCO has improved general awareness of healthy nutrition practices among small-holder cocoa producing households.

#### The Importance of Fruit and Vegetable Consumption:

◇ “Before the training we didn't know the benefits of eating fruits (vegetables) but after the training I have added kontomire, dawadawa, okro, ayoyo, turkey berries... to my household's diet. We also eat fruits such as pineapple, oranges and banana.”

- **Adwoa Donkor, 63, Female VSLA member and parent**

◇ “The most useful food and nutrition activities was when we were taught that we should eat variety of food and they must be balanced so that it will help our children grow healthy. We used to eat one-way food it doesn't help but now I try to balance the food I prepare for my family.”

- **Kusi Boadu, 58, Male VSLA member and parent**

◇ “I used to dislike vegetables but now I like them because I have learnt that they are good for my family and my children. The training has changed our diet. We are now eating a balanced diet.”

- **Moses Atubiga, 45, Father**

## Ultimate Outcome 2: Improved Food and Nutrition Security

Indicator	Baseline	End line	Target	% Change
Average household dietary diversity score	6	5.54	7	-(7.7%)
Average number of months of household food insecurity	4	3.5	3.5	-(12.5%)

Despite indications of improved knowledge regarding optimal nutrition practices from focus group respondents, the average household dietary diversity score shows a decrease in the average number of food groups consumed per household, from 6 at baseline to 5.54 at end line. The indicator assesses consumption of 12 different food groups consumed by any household member over a 24-hour period (the day and night prior to the interview), with a higher score demonstrating access to more diverse food groups. The globally recommended target is 7. While the quantitative assessment showed negative changes in food consumption patterns, PROCOCO Ghana contributed to reductions in household food insecurity, with the average number of months of household food insecurity decreasing from 4 months at baseline to 3.5 months at end line. Farmers attributed changes in access to food to increased variety of food locally (33.1%), good farm health (18.1%), increased revenue (14.5%), training and education from CARE and Cargill (12%), and increased access to food on their own farms (12%).

### Objective 3: Well-governed and Thriving Communities, Free of Child Labor

#### IO 3.1 Community associations and schools strengthened to address food security , nutrition issues, gender equality, and child labor issues

Indicator	Disaggregates	Baseline	End line	Target	% Difference
% of impact population who are aware of child labor and food security issues	School children	66.7%	64%	85%	-(2.97%)
	Teachers	88%	89%	95%	+(1%)

To sensitize PROCOCO Ghana communities on food security issues and child labor, the project supported teachers and students, building their capacity to recognize various forms of child labor and food insecurity. There was a 2.97% decrease in awareness among students and a 1% increase among teachers. The reduction in awareness among students can be attributed to a lack of formal integration of the training materials into school curricula, resulting in inconsistencies in educating students on child labor issues.

Indicator	Disaggregates	Baseline	End line	Target	% Difference
Level of accountability of collective groups	None	60.20%	83.20%	90%	+(23%)
% of farmer collectives that are effectively governed	None	32.87%	82.08%	90%	+(49.21%)

The project also worked to improve the accountability and effective governance of collective groups. Accountability of collective groups was measured based on a set of criteria: having transparency systems in place, consulting the community to develop an action plan, addressing child labor within community action plans, and providing regular restitution to the community. Effective governance was reported as a index based on the following criteria: board members are elected democratically, women have membership in the board, there is a regular change of leadership, women are in leadership positions, the collective is accountable to its members, and has a functional financial system developed. On average, there was a 23% increase among the level of accountability of collective groups and a 2.5 fold increase in the percentage of collectives that are effectively governed.

Indicator	Disaggregates	Baseline	End line	Target	% Difference
# of communities with community action plans developed (CAPs)	None	110	110	110	-
% of CAP activities implemented versus planned	None	80%	86.90%	90%	+(6.90%)

Lastly, PROCOCO Ghana facilitated the development of 110 community action plans (CAPs) in 110 communities. CAPs included action items to address issues in the communities related to child labor, education, cocoa production, food and nutrition security, and access to basic services. After the plans were developed, the project worked with key stakeholders to facilitate the implementation of these action items, with 86.9% of CAP activities implemented on average.

### Ultimate Outcome 3: Well-governed and Thriving Communities, Free of Child Labor

Indicator	Baseline	End line	Target	% Difference
% of children under 16 who are working	16.2%	9.3%	8%	-(6.9%)
Primary school enrollment rate	95.6%	99.6%	95%	+(4%)

The sharp decrease in child labor activities such as harvesting, clearing, fertilizer application, and portorage indicates that the project succeeded in reducing child labor related outcomes. This reduction is significant as removing children from cocoa production activities in the target districts often bears negative economic consequences to small-holder cocoa families. Many rely on their children to support income generation activities, including hazardous and non-hazardous farming activities. The combination of child-labor education, community action planning, and the project’s stakeholder engagement has contributed to the observed decrease in hazardous child labor, which, as a result, has affected primary school enrollment across the districts. Nearly all children eligible for primary school enrollment are enrolled in school, increasing from 95.6% at baseline to 99.6% at end line.

## Conclusion

### Impact

Indicator	Baseline	End line	Target	Achievement
Average per-capita income (USD/monthly)	\$72.4	\$239.4	\$108.9	Achieved
Household assets ownership index	.45	.73	.6	Achieved
% of farmers with access to at least one form of financial service	14.22%	79.5%	50%	Achieved
Women’s Empowerment Index	.84	.81	.9	Not Achieved
Average household dietary diversity score	6	5.54	7	Not Achieved
Average number of months of household food insecurity	4	3.5	3.5	Achieved
Primary school enrollment rate	95.6%	99.6%	95%	Achieved
% of children under 16 who are working	16.2%	9.3%	8%	Not Achieved

Based on these results, PROCOCO Ghana is making strides toward its goal of fostering prosperous and resilient communities. Cocoa farmers have greater access to services, like agricultural extension and agronomic capacity building, and are applying what they know to maintain and expand their farms. Even with unpredictable climate patterns and an unprecedented time of drought, farmers were able to maintain or minimize agricultural loss, while Ghana’s cocoa sector as a whole experienced a nearly 20% decrease in production. Being able to minimize loss was critical in maintaining stable income and reinforces the claim that these communities have built resilience to climate-related shocks. The combination of relatively steady cocoa production, a two-fold increase in the market price of cocoa, and livelihood diversification has facilitated a nearly three-fold increase in per-capita income among farmers. In addition to significant gains in income, families own almost twice as many household assets as before, which can serve as a safety-net in emergency situations or other unforeseen stresses within their lives. Land ownership, specifically, increased three-fold— an invaluable pathway to bringing people out of poverty.

Another dimension of resilience worth noting is access to credit. Farmers are often faced with financial capital constraints before harvesting their crops. They often need to take loans to support themselves until the next harvest yet lack of information, high interest rates, lack of collateral to take loans, and loan sharks are barriers to farmers' ability to access financial resources. PROCOCO Ghana helped farmers to increase their access to financial services by 65%, with nearly three-quarters of farmers holding cash savings at end line. The result of this increase can largely be contributed to the proportion of farmers participating in Village Savings and Loans Associations established by the project. Women especially are taking advantage of VSLAs as a platform for economic opportunity and saving, with 91% of women participating. Moreover, saving motivation has dramatically shifted. Eight times more families are saving for their businesses and twice as many are saving for emergencies. Increased household savings for business and emergencies, coupled with greater access to credit, provided historically marginalized small-holder farming families with a cushion in the case of unexpected emergencies on their farms or within their homes.

While a significant impact on nutrition and behavior change was not observed, the project's holistic approach and livelihood focus led to greater food access across the communities. There was a decrease in the average number of months of household food insecurity, from 4 to 3.5 at end line, and more than 44% of households experienced increases in household income. Nearly 65% of households reporting gains in income also reported greater access to food. The study found that increased income had the largest effect on women's food access— of the households reporting an increase in income, women were more likely than men to report increased food access (70.9% of women versus 58.6% of men). When asked what contributed to observed changes in food access, households noted local food availability and variety, farm health, and increased revenue as key factors. This is significant as the project supports communities in building women's agency and addressing the structural barriers and relations that dictate their lives.

The women's empowerment index shows a decrease in empowerment, from .84 to .81 at end line. While this negative result was unexpected, given the programmatic emphasis on women's empowerment and gender equality, the data suggests that women are more able to control farm income and assets. The proportion of women reporting the ability to make household financial decisions, particularly around children's education, also remains relatively high. That being said, women continue to report limitations in their mobility as well as a lack of social capital. Focus groups indicate there is also general unease that men have regarding women working outside the home, however, both men and women recognize the potential benefits of providing women with economic opportunity. One specific example is investing in children's education. Throughout the project, key stakeholders have been engaged to address persistent child labor issues that plague the cocoa sector. Child protection training among beneficiaries and stakeholders, combined with school-related infrastructure development and rehabilitation, placed education at the center. With education identified as the pathway to eliminating child labor, the project was able to successfully contribute to a reduction in child labor, from 16.2% to 9.3% at end line. Education-centric social and behavior change communication, combined with child labor reduction efforts, influenced educational outcomes with primary school enrollment increasing by 4%.

Given these results, the project's achievements range from increasing income and assets ownership, increasing access to services, improving food security and food access, empowering women to have control over resources and to make financial decisions, reducing child labor prevalence, and improving education outcomes. Households are now more aware of how to prepare for the future and are less vulnerable to environmental stresses. PROCOCO Ghana beneficiaries now have the resources and tools necessary to absorb and adapt to changing contexts— and to prosper despite all of the challenges that constrain them.



## Lessons Learned

### Recommendations

#### **Improve access to new technology:**

There is high demand for equipment including motorized spraying machines and weighing scales among farmers. While CARE facilitates access to some equipment, access to machinery remains low among men and women farmers. The project should consider additional platforms to increase access to agricultural machinery, like *Hello Tractor*.

#### **Improve management of input distribution:**

Supply of inputs such as hybrid cocoa seedlings should be supplied to farmers based on and prior to expected rainfall. Some farmers received agro-inputs late thus missing the primary rainfall season, negatively affecting their production. Better monitoring of climate patterns and project input distribution timelines should improve input supply, utilization, and production potential.

#### **Facilitate broader access to productive resources for women farmers:**

There are access inequities between men and women, specifically accessing tools and other miscellaneous inputs. In the future, the project should focus on addressing gender inequality within farming communities, increasing access to large machinery and tools for women farmers so women can have the resources they need to maximize their productivity.

#### **Expand farm mapping:**

Supporting farmers in mapping their farmlands has enabled them to accurately access the quantity of inputs needed rela-

tive to the size of their farm. Farm expansion, however, has resulted in a need to remap certain areas to cover the additional farmland. Focus groups discussions revealed that some farmers do not know their actual farm size and this affected their ability to source the right quantity of agro-inputs, a finding that could have significant impact on their agricultural productivity.

**Increase access to and availability of climate information:**

The project should aim to include capacity building activities on climate change mitigation measures for cocoa farmers. The erratic rainfall pattern reported by farmers requires future interventions to include training modules on climate change mitigation and seasonal climate patterns to help farmers anticipate and adapt to climate variability.

**Strengthen nutrition and gender programming:**

While the reductions in dietary diversity and women's empowerment index were minimal, these findings indicate gaps in nutrition and gender programming in PROCOCO Ghana. It was apparent in the household survey and focus group discussions that farmers and their families were aware of key messages promoted by the project, however, changes in practices were less apparent. Development of both nutrition and gender behavior change strategies, while identifying the barriers that minimize our impact on optimal nutrition and gender outcomes, would transform how the project reaches its beneficiaries. Given that knowledge increased but changes in practices were not significant, a barrier analysis should be conducted to further understand the motivators and barriers to adequate nutrition. Subsequently a behavior change strategy will be developed that focuses on appropriate messages on dietary diversity of essential and micro nutrients of local foods for women and children and the promotion of homestead gardens and small animal production.

A Gender Action Plan developed by the PROCOCO team recommends mainstreaming gender equity learning and action, engaging men and boys and training all staff and partners on Social Analysis And Action for Food and Nutrition Security, a toolkit that addresses the social, economic, and cultural factors that influence agriculture practices, livelihoods, nutrition, health, gender inequality, and development.



[www.care.org](http://www.care.org)

**CARE USA**

151 Ellis Street NE  
Atlanta, GA, 30326  
United States of America  
T) 404-979-9455

**CARE Ghana**

**Kumasi Sub-Office**  
Fumesua, Kokobra Road  
P.O. Box AS 18, Asawase,  
Kumasi, Ghana  
T) +233 322 061 886/7

**CREDITS AND COPYRIGHT**

JMK Consulting, LLC performed the final evaluation in Ghana. Jody Williams and Osman Mensah are key contributors to the text and data reported throughout this document.

November 2016: Maria Hinson, M.S.

Eunice Oduro