World Cocoa Foundation/ 
African Cocoa Initiative

Final Report

October 2011 – December 2016
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List of Acronyms

ACBWG  African Cocoa Breeders Working Group
ACI  African Cocoa Initiative
CHED  Cocoa Health and Extension Division of COCOBOD
CICC  Conseil Interprofessionnel du Cacao et du Café
CLP  Cocoa Livelihoods Program
CNRA  Centre National de Recherche Agronomique (Côte d’Ivoire)
COCOBOD  Ghana Cocoa Board
COPAL  Alliance of Cocoa Producing Countries
CRIG  Cocoa Research Institute of Ghana
CRIN  Cocoa Research Institute of Nigeria
FAO  Food and Agriculture Organization
FMARD  Federal Ministry of Agriculture and Rural Development (Nigeria)
GAP  Good Agricultural Practices
ICCO  International Cocoa Organization
IDH  the Sustainable Trade Initiative
ILO  International Labor Organization
IPM  Integrated Pesticide Management
IRAD  Institute of Agricultural Research for Development (Cameroon)
ITRA  Institut Togolaise de Recherche Agronomique (Togo)
LBC  Licensed Buying Company
NARS  National Agricultural Research Stations
PAN  Pesticide Action Network
PERSUAP  Pesticides Evaluation Report and Safer Use Action Plan
PETWE  Productivity and Entrepreneurship Training for Women’s Empowerment
POPs  Persistent Organic Pollutants
PPE  Personal Protective Equipment
PPPP  Public-Private Partnership Platform
SSP  Spray Service Provider
USAID  United States Agency for International Development
WCF  World Cocoa Foundation
Executive Summary

The World Cocoa Foundation (WCF) launched the African Cocoa Initiative (ACI) project in September 2011 through a global development alliance (GDA) with the United States Agency for International Development (USAID) and 14 WCF company members¹ active in the cocoa and chocolate value chain. The program, funded in part from resources of the United States Government’s Feed the Future initiative, responded to the need for enhanced capacity in the cocoa sector within national institutions and addresses specific gaps in cocoa productivity improvements, including the provision of better planting materials, pesticides/fertilizers, and credit to cocoa farmers.

WCF/ACI has contributed towards evidence-based decision making and policy formulation, improved planting material, extension services and market-driven input supply. WCF/ACI also supported work to eliminate worst forms of child labor by ensuring that curricula used in training of trainers in extension service delivery included topics on combatting the worst forms of child labor. Combined with the Spray Service Providers (SSPs) initiative that trains professionals in the safe application of agro-chemicals, these efforts have contributed towards removing children and untrained adults from hazardous tasks and have improved overall farm safety.

WCF/ACI worked across four interrelated components:

**Component 1**: Establishment of Public-Private Partnership Platforms (PPPPs) in the cocoa sector. The need for PPPPs for investments in agriculture stems from a recognition of the important role that both public and private sector stakeholders need to play towards the realization of the decision of heads of states and governments of the African Union (AU) in the Maputo Declaration of 2003. This Component also led to capacity building of stakeholder organizations for effective participation in the PPPP. Unfortunately, as of the close of the project only two of the four originally established PPPPs are still functioning, namely, the platforms in Cameroon and Cote d’Ivoire.

**Component 2**: Access to quality planting cocoa material remains a key contributing factor to improved productivity. To ensure farmers’ access to improved planting material, WCF/ACI established an additional 115 hectares of new seed gardens (out of a total of 130 planned). This has increased the existing estimated regional capacity of 317 hectares by almost 50%. To achieve these results, WCF/ACI partnered with the national agricultural research and cocoa research institutes in Cameroon, Côte d’Ivoire, Ghana, and Nigeria to expand national seed and bud-wood garden capacity. Unfortunately, portions of the newly established seed and bud-wood gardens suffered significant setbacks and complete destruction as result of the combined effects of El Niño and a heavy Harmattan period in the 2015/2016 season in both Côte d’Ivoire and Ghana. Planting material for the establishment of the remaining 15 hectares of new seed gardens in Nigeria were moved into the field at the end of FY2016. The Program Management Unit (PMU) discussed with the Cocoa Research Institute of Ghana (CRIG) and Cocoa Research Institute of Nigeria (CRIN) about the completion and maintenance of the seed gardens in Ghana and Nigeria respectively after December 2016. One lesson is clear—

national multiplication infrastructure needs to increasingly include irrigation and other climate mitigation measures to compensate for higher temperatures and prolonged periods of drought.

**Component 3:** Changes in technology and consumer preferences mean the information available to and the practices that farmers apply in the production of cocoa needs constant updating. WCF/ACI addressed this need through enhanced extension delivery and farmer training. WCF/ACI completed the training of 804 extension staff in Cameroon, Côte d’Ivoire, Ghana, and Nigeria over the five-year span of the project. In addition to the standard agronomic curriculum, the new training included information on topics such as gender, HIV/AIDS, and combatting child labor, as well as workshop facilitation and overall communication and adult learning techniques. Together, the trained extension agents provided good agricultural practices (GAP) and associated training to 187,841 farmers over the life of the project. Also, 994 women in 10 communities in cocoa growing areas in Côte d’Ivoire received training in best practices for cocoa production under the Productivity and Entrepreneurship Training for Women’s Empowerment (PETWE) program.

**Component 4:** Agro-chemicals and other agricultural inputs remain a major contributing factor in reducing pest and disease pressure and improving productivity in cocoa production. However, access to and knowledge of the safe and proper use of these inputs remain key challenges to cocoa farmers. Topics and messages on the elimination of the worst forms of child labor in contravention of ILO Convention 182 were an integral part of the training of extension staff under Component 3. WCF/ACI also worked to ensure that these messages were reinforced through practical, farm ready services such as the Spray Service Provider (SSP) program, which implemented spray services and input credit schemes for 74,640 (including 14,942 female) farmers. The input credit scheme helped 914 farmers to access $177,948 to purchase agricultural inputs including chemicals and fertilizer with repayment rates of 100% in Côte d’Ivoire and 98% in Nigeria. It is estimated that the input credit program generated $210,000 in incremental revenue generated by participating farmers over the two-year pilot. Gross margin per hectare on beneficiary farms increased from $871 to $980 between 2012 and 2016 primarily because of the implementation of these two programs backed by the application of GAP.

WCF launched the CocoaAction strategy in May 2014, bringing the world’s leading cocoa and chocolate companies together to accelerate sustainability and improve the livelihoods of cocoa farmers. CocoaAction has developed meaningful partnerships between governments, cocoa farmers, and the cocoa industry to boost productivity and strengthen community development in the two focus countries of the Côte d’Ivoire and Ghana. As much as possible, WCF/ACI aligned its activities with the implementation of the CocoaAction strategy to draw synergies and achieve increased results in all areas of program implementation.

This report contains details of project activities implemented from October 1, 2011 to December 31, 2016. At the end of WCF/ACI, WCF developed and received approval for a new, follow on program, entitled African Cocoa Initiative Phase II (ACI II) that runs from September 30, 2016 through September 29, 2021. The table of indicators showing progress
against current year and life of project targets can be found on pages 5 and 6. Annex 1 contains success stories from the implementation of activities while technical reports on project activities can be found in the other Annexes.
Introduction

Cocoa in West Africa contributes significantly to households, communities and national economies. Collectively, the region’s estimated two million smallholder cocoa farmers produce approximately 70% of the world’s supply of cocoa beans. It is a highly valued cash crop across the region that is often grown in association with multiple food crops. This dynamic presents important food security benefits and overall resiliency for farm households. Exported cocoa also provides national economies with vital revenues, bringing in an estimated $9.4 billion\(^2\) in 2014 to the national economies of West Africa. With projected strong, long-term demand, cocoa has great potential as a profitable anchor in tropical smallholder farming systems. Achieving this potential will require continuous improvements in productivity to make cocoa farming more economically attractive and environmentally sustainable. An essential condition for this success is building capacity in both public and private sector institutions involved in cocoa.

On September 30, 2011, USAID/Bureau for Food Security (USAID/BFS)/Markets, Partnerships and Innovations awarded Cooperative Agreement # AID-OAA-A-11-0006 to the World Cocoa Foundation (WCF) to implement the five-year African Cocoa Initiative (WCF/ACI) program. The project’s end date was extended from September 30, 2016 to December 31, 2016.

WCF is a membership organization of more than 100 companies from around the world, with its people, planet and profits approach, has the unique ability to benefit and empower cocoa farmers through holistic, partnership-driven programs focused on farm-level training and applied research. USAID has provided $5,000,000 over the five-year period and has leveraged more than $4,500,000 in matching funding from 14 WCF member companies\(^3\) from the chocolate and cocoa industry, as well as an in-kind contribution of $3,500,000 from the Dutch Sustainable Trade Initiative\(^4\) (IDH). The program aimed to double cocoa productivity for 100,000 farm households and in doing so, raise the per capita income of cocoa farmers by 150-200%.

WCF/ACI aimed to transform the sector by improving productivity, livelihoods, social development, and environmental sustainability. USAID/BFS sought to further the development of the cocoa sector by leveraging other West Africa cocoa sector programs. WCF/ACI’s design and approach grew out of the experiences of other WCF implemented programs, such as the WCF Cocoa Livelihoods Program (CLP), WCF Empowering Cocoa Households with Opportunities and Education Solutions (ECHOES) program (also funded by USAID), and the Sustainable Tree Crops Program (STCP).

WCF/ACI thus provided a unique convening platform for various cocoa sector stakeholders to work together on the multifaceted challenges facing cocoa sustainability. It enabled governments, donors, and industry to work together on the most critical issues, especially those of a policy nature, facing the cocoa sector in West Africa. Focus countries for the

\(^2\) Based on production volume estimates and average monthly prices as reported by the ICCO for the 2013/2014 cocoa season.


\(^4\) On July 9, 2013, USAID, WCF and IDH signed an agreement to change IDH’s involvement from cash to in-kind contributions.
project were the four main producers in West Africa—Cameroon, Côte d’Ivoire, Ghana and Nigeria.

To broaden cooperation between industry members and to align their activities with those of origin governments, WCF launched the CocoaAction strategy in May 2014. CocoaAction brings the world’s leading cocoa and chocolate companies together to accelerate sustainability and improve upon the livelihoods of cocoa farmers. CocoaAction serves as a catalyst for further partnerships between governments, cocoa farmers, and the cocoa industry to boost productivity and strengthen community development in Côte d’Ivoire and Ghana – the largest cocoa producing countries in the world.

By 2020, CocoaAction aims to reach 300,000 cocoa farmers through two important and interrelated packages—Productivity and Community Development. Under the productivity package, CocoaAction plans to develop, propagate and distribute improved planting material and fertilizer to 300,000 cocoa farmers who would receive training in good agricultural practices (GAP). The community development package envisages reaching an estimated 1,200 communities across Côte d’Ivoire and Ghana with support to primary education, child labor monitoring and remediation, youth and women’s empowerment. CocoaAction member companies have also agreed to report on their individual performance using a standardized set of key performance indicators (KPIs). It is anticipated that industry’s progress will be in the public domain and independently verified.

While the design of ACI preceded the CocoaAction strategy, many of the program components informed the prioritization of interventions under CocoaAction and in turn have been heavily influenced by CocoaAction.

The ACI program achieved its goal through the implementation of four main components:

1. **To develop and strengthen national partnership platforms investing in agriculture and cocoa.**
   WCF/ACI built and/or supported a national body/platform in each country that brings together stakeholders from industry, government and civil society to address issues concerning the sector and to leverage resources towards investments in cocoa and agriculture in general.

2. **To address farm productivity constraints through improved planting material.**
   The program focused on improving productivity on West and Central African cocoa farms using modern technology for identifying, propagating and distributing improved varieties.

3. **To enhance public and private sector extension and farmer training services.**
   The program promoted technology transfer on a large scale through the adoption and dissemination of recently updated developed curricula using innovative outreach methodologies by the designated national services and private sector farmer training programs.

4. **To foster market-driven farming input supply services.**
   Targeting the private sector actors in the agriculture supply chains, WCF/ACI expanded and strengthened both the range of services and inputs available, while securing more local access to information about their best use.
## Partners

<table>
<thead>
<tr>
<th>Organization</th>
<th>Country</th>
<th>Component</th>
<th>Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cocoa Research Institute of Nigeria</td>
<td>Nigeria</td>
<td>2</td>
<td>- Genetic analysis&lt;br&gt;- Creation of 15 hectares of seed gardens and 10 hectares of bud-wood gardens</td>
</tr>
<tr>
<td>Cocoa Research Institute of Ghana</td>
<td>Ghana</td>
<td>2</td>
<td>- Genetic analysis&lt;br&gt;- Creation of 15 hectares of seed gardens and 10 hectares of bud-wood gardens</td>
</tr>
<tr>
<td>Solidaridad West Africa</td>
<td>Ghana</td>
<td>3</td>
<td>- Co-funding for training of extension staff</td>
</tr>
<tr>
<td>The Sustainable Trade Initiative</td>
<td>The Netherlands</td>
<td>4</td>
<td>Co-funding for harmonization of extension training manuals</td>
</tr>
<tr>
<td>Ghana Cocoa Board</td>
<td>Ghana</td>
<td>All</td>
<td>All WCF/ACI activities in Ghana</td>
</tr>
<tr>
<td>Institute for Research for Agricultural Development</td>
<td>Cameroon</td>
<td>2</td>
<td>- Genetic analysis&lt;br&gt;- Creation of 15 hectares of seed gardens and 10 hectares of bud-wood gardens</td>
</tr>
<tr>
<td>Conseil du Café-Cacao</td>
<td>Côte d’Ivoire</td>
<td>1</td>
<td>All WCF/ACI activities in Côte d’Ivoire</td>
</tr>
<tr>
<td>National Cocoa and Coffee Board</td>
<td>Cameroon</td>
<td>1</td>
<td>All WCF/ACI activities in Côte d’Ivoire</td>
</tr>
<tr>
<td>Cocoa Health and Extension Division of COCOBOD</td>
<td>Ghana</td>
<td>3</td>
<td>- Co-funding for training of extension staff</td>
</tr>
<tr>
<td>Centre National de Recherche Agronomique</td>
<td>Ghana</td>
<td>2</td>
<td>- Creation of 50 hectares of seed gardens and 10 hectares of bud-wood gardens</td>
</tr>
<tr>
<td>Agence Nationale d’Appui au Développement Rural</td>
<td>Côte d’Ivoire</td>
<td>3</td>
<td>- Training of extension staff</td>
</tr>
<tr>
<td>Cocoa and Coffee Inter-Professional Council</td>
<td>Cameroon</td>
<td>3</td>
<td>- Funds management for harmonization of extension training manual&lt;br&gt;- Support for 50 young farmers under New Generation program</td>
</tr>
<tr>
<td>Cocoa Producers Alliance</td>
<td>West Africa</td>
<td>1</td>
<td>Public-Private Partnership Platforms</td>
</tr>
<tr>
<td>TechnoServe</td>
<td>West Africa</td>
<td>4</td>
<td>Implementation of Input Credit Program</td>
</tr>
<tr>
<td>CropLife</td>
<td>West Africa</td>
<td>4</td>
<td>Implementation of Spray Service Provider (SSP) Program</td>
</tr>
<tr>
<td>Seed Production Division of COCOBOD</td>
<td>Ghana</td>
<td>2</td>
<td>Creation of 50 hectares of seed gardens and 10 hectares of bud-wood gardens</td>
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Table of Indicators\(^5\)

<table>
<thead>
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<tbody>
<tr>
<td>4.5.1-24</td>
<td>Number of Policies, Regulations, and Administrative Procedures in development, passed, or being implemented as a result of USG assistance</td>
<td>12</td>
<td>7</td>
<td>58%</td>
<td>N/A</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>4.5.2-2</td>
<td>Number of hectares under improved technologies or management practices as a result USG assistance</td>
<td>300,000</td>
<td>330,793</td>
<td>110%</td>
<td>N/A</td>
<td>81,383</td>
<td>122,057</td>
</tr>
<tr>
<td>4.5.2-5</td>
<td>Number of farmers and others who have applied new technologies or management practices as a result of USG assistance</td>
<td>100,000</td>
<td>138,905</td>
<td>139%</td>
<td>N/A</td>
<td>19,697</td>
<td>64,533</td>
</tr>
<tr>
<td>4.5.2-7</td>
<td>Number of individuals who have received USG supported short-term agricultural sector productivity or food security training</td>
<td>100,000</td>
<td>174,351</td>
<td>174%</td>
<td>N/A</td>
<td>31,907</td>
<td>53,928</td>
</tr>
<tr>
<td>4.5.2-11</td>
<td>Number of food security private enterprises (for profit), producer organizations, water users’ associations, women's groups, trade and business associations, and community-based organizations (CBOs) receiving USG assistance</td>
<td>200</td>
<td>209</td>
<td>105%</td>
<td>3</td>
<td>38</td>
<td>51</td>
</tr>
<tr>
<td>4.5.2-12</td>
<td>Public-private partnerships formed as a result of USG assistance</td>
<td>20</td>
<td>24</td>
<td>120%</td>
<td>3</td>
<td>5</td>
<td>16</td>
</tr>
<tr>
<td>4.5.2-23</td>
<td>Value of incremental sales (collected at farm-level) attributed to FTF implementation</td>
<td>$252.11M</td>
<td>$156.95M</td>
<td>62%</td>
<td>N/A</td>
<td>$22.19M</td>
<td>$29.23M</td>
</tr>
</tbody>
</table>

\(^5\) Data for all WCF/ACI indicators were collected annually usually between July and September for each annual report. The figures come mainly from the training of extension staff as well as results from the SSP and Input Credit programs, both of which ended during the period under review.

\(^6\) The targets for indicators 4.5.2-5 and 4.5.2-7 were overachieved through results from the activities of extension officers trained in Ghana in 2013, which was not initially considered in the project design.
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<tbody>
<tr>
<td></td>
<td></td>
<td>Target</td>
<td>Achieved</td>
<td>Percentage</td>
<td>Target</td>
<td>Achieved</td>
<td>Percentage</td>
</tr>
<tr>
<td>4.5.2-27</td>
<td>Number of members of producer organizations and community based organizations receiving USG assistance</td>
<td>25,000</td>
<td>22,427</td>
<td>90%</td>
<td>N/A</td>
<td>2,132</td>
<td>N/A</td>
</tr>
<tr>
<td>4.5.2-36</td>
<td>Value of exports of targeted agricultural commodities as a result of USG assistance</td>
<td>$360.15M</td>
<td>$621.34M</td>
<td>173%</td>
<td>N/A</td>
<td>$76.38M</td>
<td>$218.87M</td>
</tr>
<tr>
<td>4.5.2-42</td>
<td>Number of private enterprises, producer organizations, water users’ associations, women’s groups, trade and business associations and community-based organizations (CBOs) that applied improved technologies or management practices as a result of USG assistance</td>
<td>32</td>
<td>72</td>
<td>225%</td>
<td>N/A</td>
<td>17</td>
<td>19</td>
</tr>
<tr>
<td>4.5-4</td>
<td>Gross margin per unit of land, kilogram, or animal of selected product (crops/animals selected varies by country)</td>
<td>$1,000</td>
<td>$980</td>
<td>98%</td>
<td>N/A</td>
<td>$871</td>
<td>$1,064</td>
</tr>
<tr>
<td>4.5-11</td>
<td>Market discount of targeted agriculture commodities(^7)</td>
<td>&lt;30%</td>
<td>32%</td>
<td>-7%</td>
<td>34%</td>
<td>24%</td>
<td>41%</td>
</tr>
</tbody>
</table>

**WCF Indicators**

<table>
<thead>
<tr>
<th>Productivity</th>
<th>Kilograms per hectare per year (at farm level) - This is an assumed component of Gross Margin (4.5-4) above but is reported separately for WCF member purposes - target</th>
<th>1000 kg/ha</th>
<th>601</th>
<th>33.5%(^8)</th>
<th>N/A</th>
<th>502</th>
<th>636</th>
<th>648</th>
<th>601</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent of Cocoa reference price(^9)</td>
<td>Reported as a percent by country and is a derived equivalent of Market Discount (4.5.11) above but is reported separately for WCF member purposes</td>
<td>&gt;70%</td>
<td>68%</td>
<td>97%</td>
<td>66%</td>
<td>76%</td>
<td>59%</td>
<td>60%</td>
<td>68%</td>
</tr>
</tbody>
</table>

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\(^7\) The reference price is the ICCO monthly average world price for the reporting year.

\(^8\) The percentage achieve is calculated as the progress in reaching the 1,000 kg/ha target with a starting point of 400 kg/ha, which is the baseline figure for WCF/ACI. The slow progress in achieving the target may be because the 1,000 kg/ha is overambitious. Also, the results reported represent less than four years of implementation of the five-year project.

\(^9\) WCF/ACI has little influence on the determination of national producer prices which constitute the regional price used for the calculation of this indicator.
Component 1: Strong National Partnership Platforms

Overview
National governments in all four WCF/ACI countries have institutions dedicated to supporting the production and marketing of cocoa. However, there was recognition that a forum was needed where the private sector and civil society could interact with governments to ensure that decisions and policies made and designed for the sector are evidence-based and obstacles to increased sustainability overcome. In response, WCF/ACI, working closely with other public and private stakeholders, provided technical and financial support for the establishment or strengthening of national Public-Private Partnership Platforms (PPPP) for the cocoa sector in each of the four WCF/ACI countries.

WCF/ACI provided funds to support the plenary session of the PPPP in Cameroon, Côte d’Ivoire, and Ghana. The project also collaborated with IDH and national extension agencies to harmonize extension training manuals for farmers and technical extension staff in each of the four WCF/ACI countries. Sample copies of the manuals are attached as Annex 2. Leveraging CocoaAction resources, WCF/ACI is supporting Cocoa Swollen Shoot Virus Disease (CSSVD) control efforts in Côte d’Ivoire and Ghana. MOUs signed in both countries provide a framework for building national capacity in the production and distribution of improved planting material and developing methods to control the disease.

Milestones
- In Côte d’Ivoire, work shifted from program-specific activities to working with the Conseil du Café-Cacao under the CocoaAction strategy. This followed the signing of MOUs in 2015 for collaboration between Côte d’Ivoire and Ghana to draw synergies for CSSVD control and piloting new technologies in the use of orthotropic shoots, somatic embryogenesis and grafting for multiplying planting material. These pilots are intended to result in the development of a sustainable process for producing and distributing improved planting material for cocoa farmers. In CSSVD control, methods for early detection of the virus will be developed, genetic and breeding work to identify and develop resistant material will be intensified, and farmers will be educated on disease management and how to diversify their revenue sources to reduce the impact of the removal of infected trees.
- The Côte d’Ivoire PPPP established under WCF/ACI is functioning and the third plenary session of the platform was held from March 30 to April 1, 2016 with 245 participants from 91 organizations in attendance. The thematic working groups—with membership drawn from across the cocoa sector—reported the following main accomplishments:
  - Stakeholder engagement for CSSVD control, notably accompanying measures to boost CSSVD control in the field;
  - Two extension manuals (one for technicians and the other for farmers) harmonized with WCF/ACI support;
  - Sustainability indicators using the WCF CocoaAction KPI framework and guide;
  - Ten agreements signed by the Conseil du Café-Cacao to raise a total of 21.3 billion FCFA for the implementation of sustainability projects under the Quality, Quantity and Growth (2QC) cocoa sector strategy for which the Conseil du Café-Cacao is contributing 7.3 billion FCFA; and
Alignment of actions for community development under CocoaAction and 2QC.

The second plenary of the platform in Cameroon was held on March 10, 2016 during which WCF/ACI presented the achievements of the project over the last four years to a cross section of stakeholders in the sector. A key outcome of this meeting was the recognition of the need for closer collaboration among the various institutions involved in research, multiplication and distribution of planting material in the cocoa sector in Cameroon;

WCF/ACI collaborated with other donor agencies in the World Bank-led Scenario Planning exercise at the request of the Ghana Cocoa Board (COCOBOD). The exercise brought together representatives from stakeholders in the cocoa value chain to have a structured discussion about likely trajectories in response to uncertainty in the sector. Issues considered included the number of significant changes in the global cocoa industry, climate change, and Ghana’s graduation to middle income status. Two workshops were conducted during the exercise. The results of this scenario planning workshops were used as inputs for the development of the draft Ghana Cocoa Sector Development Strategy II (CSDS II). This document, awaiting validation and due diligence, was supposed to be ready for the launching of the 2016/2017 season to replace CSDS I. The first generated scenarios for future social, political, environmental technological and regulatory challenges and opportunities;

WCF/ACI facilitated discussions towards organizing processors and other private sector stakeholder groups in anticipation of the incorporation of the private sector-led and government-facilitated Cocoa Development Board for Nigeria, which is Nigeria’s version of the PPPP. The complexity of the hybrid structure and its funding have presented major challenges in its implementation. Despite these drawbacks the PMU has been in continuous dialogue with FMARD through its Cocoa Desk. It is because of this dialogue that FMARD approved the request for support towards the harmonization of cocoa extension training manuals for which WCF/ACI and IDH provided financial and technical support for completion;

WCF engaged LMC International as consultants to assess the comparative impact on household incomes of farmers growing cocoa as opposed to rubber and oil palm and alternative land use in Côte d’Ivoire and Ghana. The report is attached as Annex 3. Findings were as follows:

- The evidence suggested that farmers have switched to rubber due to its greater profitability, especially in 2011 but there are other non-financial reasons for the switch, e.g. regular flow of cash income, easier for absentee landlords to manage sharecropping arrangements from a distance, etc.;
- The switch was to rubber rather than oil palm as the profitability of rubber is greater. There were also agronomic reasons against choosing oil palm as it does not respond well in conditions where there is a distinct dry season;
- Most farmers stayed in cocoa as it is a crop they know, understand and were brought up with (implying less risk). In addition, the decision to switch comes when a tree is at the end of its economic lifetime. To switch at any other time leads to a reduction in income when rubber/oil palm is in its immature phase. Overall, cocoa was shown to remain a profitable crop;
- Prices are cyclical and rubber prices have been at their highest levels for a generation in 2011. This also encouraged rubber planting;
- Cocoa is encouraged in Ghana in part due to the fertiliser subsidy. The incentives to switch were less clear in Côte d’Ivoire in the absence of a subsidy and the presence of higher wages;
In selling to the mining industry, farmers are compensated for their loss of earnings from cocoa production; The study also showed that cocoa was the least volatile in terms of price trends but labor seemed to have a significant impact on the level of technology applied on the farms, i.e. the higher the technology level the more labor was required.

Challenges and Lessons Learned

One of the key learnings from WCF/ACI was that building true and effective public private partnerships is extremely difficult. It not only requires the goodwill and engagement of the senior leadership on both side of the table, it also requires government systems and regulators that are responsive and open to both information transparency and any eventual recommendations that stakeholder may surface. The process of building PPPPs is a long-term effort and one that does not lend itself to the confines and timeframes of short development projects.

On March 21, 2013, WCF/ACI and COPAL agreed to suspend an existing contract because of internal restructuring within COPAL that prevented the organization from meeting its contractual obligations. The PMU took responsibility for implementing the activities earmarked under the agreement with COPAL. These activities included in-country public and private sector workshops and plenary sessions for the PPPP, a regional symposium on the future of cocoa research and validation of effective creation of seed and bud-wood gardens under Component 2. The direct engagement of the PMU in activities leading up to the plenary provided more flexibility and improved communication with partners and government officials. The suspension of the agreement with COPAL did not delay work under Component 1.

Cameroon

WCF/ACI-funded meetings of public and private stakeholders helped establish the platform through which all stakeholders can carry out discussion around a table. Cocoa value chain actors shared the vision of the state and their different projects. Eight thematic groups built, with each of them working on a specific priority area. Some thematic groups have formulated recommendations, which have been validated by the PPPP and implemented.

Unfortunately, the National Cocoa and Coffee Board was the sole funding agency for meetings of the plenary and the different thematic working groups. It is difficult to raise finds from the private sector, and because not all stakeholders recognize the platform, there is an absence of actions originating from the PPPP that lead to lasting impact.

Côte d’Ivoire

In Côte d’Ivoire, private sector participation in the PPPP was hindered by the propensity of the Conseil du Café-Cacao to side step the platform and its thematic working groups and act unilaterally. The Conseil du Café-Cacao fails to respond in a timely manner to proposals from the private sector and the thematic working groups. Thus, stakeholders are discouraged and view the PPPP in Côte d’Ivoire as more of a rubber-stamp body than a decision-making group empowered to make bold recommendations. Overcoming this challenge following the conclusion of the project will be a major task for stakeholders.
There was still no PPPP Coordinator in Côte d’Ivoire at the end on the project, although the thematic working groups are pressing on with policy recommendations to government. Fortunately, the need to boost the secretariat’s capacity was brought up at the third plenary of the platform, which should precipitate the eventual recruitment of a Coordinator.

**Ghana**

The initial challenge for the establishment of the Ghana Cocoa Platform was the difficulty in implementing the concept of the public private platform that relies on partnership between all stakeholders in arriving at evidence-based decisions and policies in a system that historically has been centrally controlled by COCOBOD. In addition, the implementation of the platform was primarily focused on the Mondelēz International-funded Green Commodity Facility\(^{10}\) of UNDP, which is the main coordinating agency of the Ghana Cocoa Platform (Ghana’s PPPP).

After the end of funding for the Green Commodity Facility, COCOBOD absorbed the Ghana Cocoa Platform function into its Cocoa Health and Extension Division (CHED) in 2015 with a Deputy Technical Manager assigned responsibilities of the Coordinator of the Platform. Platform activities have effectively ceased since being mainstreamed into CHED.

A meeting co-funded by WCF/ACI to review the draft CSDS II was called off indefinitely by COCOBOD management in August 2016. With this development, progress with policy formulation under the Ghana Cocoa Platform is not certain. A recent change in government in Ghana may be a reason for optimism in this regard.

**Nigeria**

The Cocoa Transformation Agenda (CocTA) was instituted in Nigeria prior to the inception of WCF/ACI. Therefore, it was expected that the process of establishing the PPPP would be an integral part of the agenda. However, from the many options proposed by WCF/ACI consultants, Nigeria opted for the creation of the Cocoa Corporation of Nigeria (CCON), a hybridized, Ghana-style cocoa board. The CCON will be run by the private sector, distinguishing it from COCOBOD, which is run by the government. It is expected that CCON will be financed by a seed investment from the government with a levy system to be worked out later.

Although incorporation took place, further development has been stalled by the change in government in May 2015. Industry stakeholders presented a situation paper to the new government with recommendations on restarting the PPPP process. In the meantime, WCF/ACI continued to collaborate with the Cocoa Association of Nigeria to strengthen the capacity of stakeholder groups along the value chain, while waiting for clarification on the overarching governance structure.

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\(^{10}\) In 2009, UNDP established the Green Commodities Program with the aim of transforming agricultural production and trade around the world through multi-stakeholder collaboration and the establishment of effective national enabling environments in producer countries.
Component 2: Improved Productivity through Better Planting Material

Overview
Low productivity is of significant concern in the cocoa sector of West Africa. Current estimated productivity per hectare ranges from 300 to 450 kg\(^{11}\) in the sub-region. The WCF/ACI target of 1,000 kg/ha is within reach if existing resources and knowledge on GAP are applied. Increased productivity, coupled with GAP could mean less land is needed for cocoa, and appropriate crop diversification could lead to added food supplies and increased food security. Importantly, increased productivity would result in additional income generation, which in turn helps boost resilience of cocoa farm families. Access to improved planting material plays a big part in increasing productivity. Therefore, the availability of high quality planting material is essential to a sustainable cocoa economy in which cocoa cultivation sits alongside food crop production on smallholder farms.

WCF/ACI’s target was to support Cameroon, Côte d’Ivoire, Ghana, and Nigeria to establish a total of 130 hectares in new seed gardens and 40 hectares in new bud-wood gardens. The addition of these new seed and bud-wood gardens is a strategic contribution, both to enhance access and distribution of planting materials. Côte d’Ivoire and Ghana were to establish 50 hectares of seed gardens and 10 hectares of bud-wood gardens each, while Cameroon and Nigeria were to establish 15 hectares of seed gardens and 10 hectares of bud-wood gardens each.

To ensure that the material used in establishing these seed and bud-wood gardens was of the best quality, WCF/ACI funded an unprecedented application of biotechnology to verify whether planting material in existing seed gardens and breeders’ stock are true-to-type through genetic fingerprinting. The results of the genetic fingerprinting exercise indicated significant (about 20%) mislabeling in existing seed and bud-wood gardens in all countries. This has serious consequences for the production and post-harvest requirements of the planting material that has been distributed to farmers over the years. The results also underscore the need to expand the genetic fingerprinting to cover all planting material that is used for breeding, propagation and distribution to farmers.

To complement the work in genetic fingerprinting, the African Cocoa Breeders’ Working Group (ACBWG), verified the genetic integrity of the progenies to their true-to-typed parents in the seed gardens. Also, ACBWG conducted field trials to stimulate the adoption of improved cocoa varieties and good agricultural practices to attain sustained and increased productivity in smallholder cocoa farming systems. For farmers, these trials helped to

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11 This is the estimated level of yields in various studies for smallholder farmers across West Africa. The yield of 648 kg/ha is the figure obtained from annual monitoring of more than 50,000 farmers who have benefited from the provision of spray services in addition to GAP training and input credit in Cameroon, Côte d’Ivoire, Ghana, and Nigeria.
demonstrate the benefits of applying GAP and using approved planting material as supplied through the national planting material propagation and distribution programs.

On the scientific level, the findings from these trials explain the differences in performance between planting material (hybrid seedlings) on-station and the same hybrids in farmers’ fields. From the results, available at the end of September 2016, it was clear that farmers are better off with recommended hybrids from approved sources. However, current guidelines for on-farm planting distances and density may need to be revised to counter the effects of self-pollination in seed gardens, which translate into the delivery of undesired seedlings to farmers.

**Milestones**

1. Genetic Fingerprinting

Genetic finger printing was completed in early May 2014 for all samples for Cameroon, Côte d’Ivoire, Ghana, Nigeria, and Togo. ACBWG members discussed the raw un-analyzed data from the fingerprinting at a meeting on May 12-15, 2014 in Accra and proceeded to develop protocols for analyzing the data.

The results of the analysis of the data from the genetic fingerprinting were discussed and experiences shared during the 9th meeting of the ACBWG in March 2015 in Lagos. During the meeting, breeders were also introduced to Flapjack, software that allows breeders to analyze their results in visual format, in addition to other tools that would enhance breeding efficiency through better data analysis. At the time of this report, ACBWG members were using the results of the genetic fingerprinting to correct mislabeling in existing seed gardens and breeders’ stock. For instance, in Côte d’Ivoire and especially in Ghana, seed garden plots with particularly high levels of mislabeled trees have been excluded from seed pod distribution to farmers. Also, in the newly established seed gardens, breeders are re-grafting plants that are not true-to-type using the results.

2. Establishment of Seed and Bud-wood Gardens

Sub-awards for the establishment of the 130 hectares of seed gardens and 40 hectares of bud-wood gardens across all four WCF/ACI were signed in July 2013. However, to avoid losing a year’s worth of activities because of the agronomic calendar, countries started the establishment of seed gardens earlier, in May 2013. On March 10, 2014, the PMU held a conference call with all the National Agricultural Research Stations (NARS) to update the schedule of activities necessitated by the delayed signing of contracts and the effects of the agronomic calendar. The results of the genetic fingerprinting were used to correct any misidentification of clones used in the establishment of seed gardens. The establishment of bud-wood gardens started in May 2014.
At the close of WCF/ACI activities in December 2016, the status of seed garden activities was as follows:

- The NARS have taken over the responsibility for managing the seed gardens in Cameroon, Côte d’Ivoire, and Ghana;
- Planting material moved to the respective seed and bud-wood garden sub-station sites from the nursery at CRIN headquarters;
- The training of master grafters in Cameroon was completed in December 2016;
- All 50 hectares of seed gardens and 10 hectares of bud-wood gardens were established in Côte d’Ivoire, where the sub-award for their creation ended in September 2015;
- In all, 50 hectares of seed gardens were established, of which 33 hectares survived. Seven hectares of bud-wood gardens have been established in Ghana, where the sub-award ended in September 2015;
- 18 hectares (three more than the planned 15 hectares) for seed gardens and seven hectares of bud-wood gardens have been established in Cameroon, where the sub-award ended in June 2016.

Except for Nigeria, where the establishment of the seed gardens was delayed by a protracted strike of research workers, all other countries have established their complement of seed gardens. With most of the seed gardens established in 2014, trees started producing the first pods at the end of 2016.

Based on WCF/ACI projections (Annex 4) that have yet to be verified, existing seed gardens can meet the estimated demand for replanting material in an average of nine years across the region. The investment and effort in new seed gardens has the potential to help meet the increased demand for planting material in each of the countries much faster. Estimated reductions in the number of years need to do that range from one in Ghana and Nigeria to four years in Côte d’Ivoire.
The establishment of 10 hectares of bud-wood gardens was completed successfully in Cameroon and Côte d’Ivoire. In Ghana, seven hectares were established while Nigeria had yet to fully established their share of bud-wood gardens by the close of project activities in December 2016.

3. CocoaAction Planting Material Propagation Pilots:
The signing of the MOU on planting material and CSSV control on April 1, 2015, is representative of the new dynamic under the productivity package of CocoaAction. This was a continuation of work started by WCF/ACI through the PPPP. Three pilots are being implemented: 1) orthotropic shoots; 2) somatic embryogenesis; and 3) grafting (all implemented by WCF member companies) in the production and distribution of planting materials. These new technologies, which use tissue culture and vegetative propagation, will utilize planting material that is certified true-to-type from the new WCF/ACI-supported bud-wood gardens. They will also make it easier to multiply planting material over a much shorter amount of time than would be required to grow seedlings from seeds. This initiative is intended yield faster results towards the propagation and distribution of planting material as well as the eradication of the devastating viral disease.

<table>
<thead>
<tr>
<th>Improved Technologies</th>
<th>Grafting</th>
<th>Somatic Embryogenesis (SE)</th>
<th>Orthotropic Shoots (OS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>WCF/ACI II supported the piloting of three propagation techniques to produce clonal planting materials, to be validated &amp; adopted by governments</td>
<td>Elite planting material is clonally produced in nurseries and grafted onto existing trees or young seedlings</td>
<td>A single flower is used to create millions of plants, allowing rapid and mass production of desirable material</td>
<td>Cuttings are produced from SE plants of established quality</td>
</tr>
<tr>
<td>Flower in shorter time, flexible in creating canopy, and have improved productivity. Requires strict disease protocols</td>
<td>Requires high levels of investment and strong collaboration between private sector actors</td>
<td>A system combining SE and OS is likely to be the most cost-effective method of clonal production of seedlings</td>
<td></td>
</tr>
</tbody>
</table>

4. Enhancing Farmers’ Adoption of High Quality Cocoa Planting Material:
The ACBWG, with funding from a WCF member company, continues to undertake trials to assess the fidelity of planting material that end up with farmers to the high-performing parent materials that are produced at the research stations. A detailed technical report on the second-year activities under the trial is attached as Annex 5.

Cameroon
Fifteen demonstration plots have been established in farmers’ fields in the Centre and South West Regions of the country to test the performance of newly developed hybrids. In addition, one plot is intercropped with fruit trees and another with oil palm. To assess the fidelity of progenies from seed gardens, 1,100 leaf samples have been collected from seed garden plots planted with differing spatial designs. The results of the analysis of these samples will enable the researchers to determine which spatial design produces the optimal hybrids for distribution to farmers.

Côte d’Ivoire
Land preparation and the nursing of rootstocks was undertaken for the establishment of a reference bud-wood garden, which was planted in April 2016 in Divo. Breeders were in the process of interpreting the results of genetic analysis of the first batch of crosses by hand pollination and using the results to inform the production of seedlings from the resultant hybrid pods at the end of project activities in December 2016.
To demonstrate the performance of recommended hybrids, researchers have selected three existing demonstration plots with verified parentage. Data from these plots will be compared to the parents in the seed gardens using DNA analysis to establish which hybrids are not from the selected true-to-type parents and to assess the relative performance of progenies of true-to-type and off-type parents in the seed gardens.

**Ghana**

Two germplasm plots containing 100 clones were established using clones introduced from the International Cocoa Quarantine Centre in Reading, UK, and from grafting of clones that were confirmed to be true-to-type. These plots were established to serve as the active collection for CRIG. DNA analysis of cocoa varieties from four cocoa stations indicate high levels of off-type plants that compromise the genetic integrity and field performance of the varieties.

On-farm demonstration of newly developed varieties in comparison with parents in the seed gardens indicate a high potential for ease of establishment and growth for the new varieties. However, the varieties from the best cocoa seed production station analyzed were not among the best performing types on a farmer’s demonstration plot.

**Nigeria**

To verify the fidelity of progenies from seed gardens, pollination of parents in the seed gardens has been completed and hybrid seedlings have been generated from the resulting pods. The next step is for breeders at CRIN to collect and analyze leaf samples from these seedlings. Also, six locations have been identified to host the demonstration plots to assess the performance of newly developed varieties. Land preparation and establishment of shade plants has been completed awaiting the planting of hybrid seedlings. The site for the reference germplasm collection has been identified and prepared but work was delayed by a long approval process for felling trees on the plot. This delay was compounded by labor unrest associated with changes in senior management at CRIN.

**Togo**

Activities carried out focused on the breeding of clones for establishment of new germplasm plots, replacement of dead seedlings on the existing demonstration plots, site selection and hand-pollination to produce planting material for additional demonstration plots. Based on the results of the fingerprinting exercise, the true-to-type trees selected and labeled have been budded from the relevant seed gardens. On the existing demonstration plots, dead cocoa trees were replaced.

**Challenges and Lessons Learned**

The process of identifying promising cocoa varieties through breeding and DNA fingerprinting is an important and foundational investment, and one that should be shared by both producer governments and cocoa and chocolate companies. The DNA fingerprinting exercise revealed two key lessons: 1) the relatively low genetic diversity in the existing seedling gardens and 2) generally poor labeling of varieties within the region’s national seed

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12 Togo is included in this project as a member of the African Cocoa Breeders’ Working Group. Also, Togo is reputed to have planting material that is tolerant to CSSVD and was included in the genetic fingerprinting exercise for this reason.
gardens. The work to help expand national seed gardens is an equally important investment that national governments should maintain responsibility over, including the urgent need to invest in irrigation systems that protect these gardens from the vagaries of climate change and drought.

During the final verification visits following the end of the sub-awards, it was evident that the severe dry season in 2015 had a significant and adverse effect on the seed and bud-wood gardens established between 2013 and 2015 in Côte d’Ivoire and Ghana. Some seed garden plots had experience losses more than 50%. To mitigate the situation, CNRA and CRIG raised the material needed to replace the dead plants in the seed and bud-wood gardens plots. One plot in Ghana was abandoned altogether and a new site selected for replanting.

Irrigation of the seed gardens is essential to forestall similar losses in the future. Fortunately, a pilot scheme (with funding from PSAC\textsuperscript{13}) has provided irrigation for 14 hectares of the new seed gardens in Divo and Soubré in Côte d’Ivoire. In Ghana, WCF/ACI is facilitating the irrigation of five hectares of seed gardens with financing from CocoaAction. Furthermore, WCF/ACI engaged in discussions with COCOBOD and MEDA (Mennonite Development Associates) for the irrigation of 50 hectares of seed gardens in Ghana under a complementary project funding by the Canadian government.

After a monitoring visit to CRIN to verify that all the planting material needed for the seed and bud-wood gardens have been raised at the nursery, the material was transported to the seed and bud-wood garden outstation sites. The sub-award was extended to accommodate this movement by the end of November 2016 to ensure that WCF/ACI investments in the establishment of seed and bud-wood gardens are not lost. It is worth recalling that intermittent strikes and research staff changes at CRIN delayed the establishment of ACI-supported seed and bud-wood gardens in Nigeria in 2015.

Trials by ACBWG to verify the fidelity of progenies from seed gardens that end up in farmers’ fields indicate that at least 20% of the planting material that farmers receive is a result of self-pollination in seed garden. These plants cannot produce pods and are therefore of no economic value for farmers. On the other hand, the results of the trials also show that recommended hybrids perform better than non-recommended plants in farmers’ fields.

WCF/ACI learned that in some countries challenges existed in logistical support for monitoring the establishment of seed and bud-wood gardens. In response to this challenge, WCF/ACI sought support from other cocoa sector stakeholders within the respective country value chains through the PPPP.

\textsuperscript{13}The World Bank-funded Agricultural Sector Support Project (PSAC) is part of Côte d’Ivoire’s National Agricultural Investment Program (NIPA). The Project, which was launched in May 2014 and is scheduled to end in October 2017, is a tool for development of five strategic agricultural sectors with a significant impact on poverty reduction and economic development of the Côte d’Ivoire namely cocoa, rubber, oil palm, cotton and cashew.
Some farmers who hosted fields for the ACBWG fidelity trials have been reported to use herbicides on plots with young seedlings. While this reduced the task of clearing the farm significantly, the herbicides retarded and in some cases killed the plants; affecting the reliability of the trial results. This adversely affected the reliability of the results from the trials. Although some farmers understood the loss in terms of time to maturity and associated loss of income that the temporary relief of using herbicides imposes on them in the long run, others remained adamant and their plots had to be abandoned.

To avoid losing one year’s worth of work, some NARS did not wait for the results of the DNA analysis to select the varieties whose identities had been verified. They proceeded with the establishment of seed gardens using so-called “known” material. This notwithstanding, the PMU issued a notice to all NARS reiterating that all the new seed and bud-wood gardens had to use only true-to-type biomass. Thus, the NARS were, at the time of this report, using the results of the genetic fingerprinting exercise to eliminate any off-type varieties that were used in the establishment of the first set of seed gardens in 2013 and to clean up and reclassify existing germplasm collections.

In Nigeria, a protracted strike\(^{14}\) by research workers that lasted from July to December 2013, delayed the start of activities to establish seed and budwood gardens for the country. WCF/ACI disbursed funds to CRIN for the establishments of seed and budwood gardens. An inspection tour conducted in September 2014 confirmed that land preparation had been completed for the seven sites for the 15 hectares of seed gardens, with temporary shade established for 12 of the 15 hectares. Planting will begin with the rains in May or June 2015.

WCF/ACI had to work around the agronomic calendar, especially for the planting activities under Component 2. Land preparation, for example, had to be completed before the onset of the rains in July to enable the timely establishment of shade plants for the next farming cycle. The delay in signing the agreements with the national agricultural research institutes led to a loss of time in starting these activities.

Fortunately, in Côte d’Ivoire and Ghana, the local partners committed financial and human resources to begin the work to avoid losing a whole year of implementation. This was only possible because the partners understood that the new seed gardens and bud-wood gardens that would be established with the support WCF/ACI were a contribution to the countries’ replanting and rehabilitation efforts. It was apparent that clear communication with partners was instrumental in facilitating financing by local partners.

In Nigeria, a protracted strike by research workers delayed the commencement of activities in establishing seed and bud-wood gardens for the country. The strike also resulted in the inability of CRIN to provide a DUNS number to authorize disbursement of funds although the agreement has been signed for all activities under Component 2.

**Outlook**
The prolonged dry season from El Niño and prolonged Harmattan in 2015 resulted in significant losses in the established seed gardens; in Ghana for instance, more than 18,000 planted seedlings, representing about 17 hectares of the 50 hectares were lost. At the time of

\(^{14}\) Details of Research Workers’ Strike available at http://theeagleonline.com.ng/crin-workers-end-five-months-strike/
this report, the full complement of planting material needed to replace the dead plants was ready for transfer to the field at CRIG and CRIN. Despite the devastating effects of climate change, WCF/ACI realized increased capacity to produce and deliver improved planting material across West Africa.

As 2015 demonstrated, prolonged dry conditions have a devastating effect on seed gardens and farms alike. Evidence from the field indicate that mature trees succumbed to the dry conditions as much as young plants. WCF/ACI’s pilot irrigation schemes in Côte d’Ivoire and Ghana contributed to addressing this need.

**Component 3: Enhanced Extension and Farmer Training Service Delivery**

**Overview**
The provision of extension services, the main process of knowledge transfer in cocoa production, is crucial for sustainable and profitable cocoa production among smallholder farmers. This is because techniques and practices for cocoa production are constantly changing with new findings from research and requirements from chocolate manufacturers. Therefore, the importance of strong institutions that deliver extension services cannot be overemphasized.

WCF/ACI assessed extension services delivery capacity in each of the four countries to determine the ability of the institutions to meet the increasing demand for training along the value chain. The assessments provided insights for the training of staff of these institutions to enable them to provide appropriate training and information to more cocoa farmers. Based on these insights, WCF/ACI published requests for proposals and selected consultants, in collaboration with national cocoa extension agencies, USAID, and WCF member companies, to conduct trainings for cocoa extension staff. Training has been completed in Cameroon, Côte d’Ivoire, Ghana, and Nigeria.

**Milestones**

1. **Extension Capacity Building**
WCF/ACI has contributed resources and technological innovation to enhance extension service delivery. The emphasis of this work was on good agricultural practices (GAP) that resulted in a focus on total quality, which encompasses the physical quality the market requires as well as the social and environmental aspects of cocoa cultivation. The following results were obtained under this activity:

- WCF/ACI completed assessments of the extension services and farmer training capacity in Cameroon, Côte d’Ivoire; and Nigeria;
- In Ghana, 39,496 farmers, including 10,846 female farmers, received GAP training from 257 (42 female) Community Extension Agents (CEAs) of CHED. These CEAs were part of the 371 (56 female) CHED staff who received WCF/ACI supported training in GAP, good social practices and good environmental practices between September 2013 and January 2014. Topics covered in the farmer trainings include shade management, nursery establishment and management, pruning, weed, pest and disease management, pod harvesting and breaking, bean fermentation, and cocoa quality assessment;
- WCF/ACI trained 24 monitoring and evaluation staff of CHED in August 2015. Training topics included indicator definitions, types and disaggregation; result and
logical frameworks; evaluation and sampling techniques; and data quality control.
This training enabled COCOBOD to track and report on data on farmer outreach more accurately;

- A mobile phone platform called CocoaLink that was used to reinforce extension service delivery in Ghana came to the end of its pilot phase. WCF/ACI funded the assessment of capacity of Cocobod to continue this program and carry it to scale. This assessment enabled Cocobod to upgrade its IT systems to effectively host the program;
- Training was successfully completed in December 2014 for 244 Agence Nationale d’Appui au Développement Rural (ANADER) extension agents, including 46 women, in Côte d’Ivoire. Topics covered by the training were GAP, child labor and gender issues, and HIV/AIDS prevention. These extension agents went on to train 18,753 (including 1,688 women) farmers;
- In Nigeria, 56 extension staff from Oyo and Kogi states, including nine women, were trained in cocoa GAP and associated best practices in cocoa production. They went on to train 431 (including 73 women) farmers in FY2015. These newly-trained officers provided extension services to 10,000 smallholder cocoa farmers by September 2016;
- In Côte d’Ivoire 994 women in cocoa producing areas received training in best practices for cocoa production under the Productivity and Entrepreneurship Training for Women’s Empowerment (PETWE) program. The program aimed to boost the resilience of households in cocoa growing areas by providing productivity and business training to women;
- In Cameroon, 109 extension agents were trained in topics spanning cocoa nursery management, compost production, cocoa farm regeneration, control of mirids and other pests, black pod and other cocoa disease control, pruning, cocoa agroforestry, harvest and post-harvest processing techniques among others;
- The 50 (including eight female) young farmers participating in the New Generation program in Cameroon have established 173 hectares of new cocoa farms with the support of WCF/ACI and Conseil Interprofessionnel du Cacao et du Café (CICC), which will finance the third and final year of support to the young farmers in 2017.

![Figure 1 group picture of CICC officials and beneficiaries during the presentation of equipment to the New Generation farmers in Cameroon.](image)

2. Ghana Quality Innovations (GQI) for Specialty Cocoa Project
A flavor laboratory was installed at CRIG in December 2013 and allows CRIG to process cocoa bean samples into cocoa liqueur and chocolate. This enabled CRIG to make recommendations to farmers on how to vary post-harvest techniques for fermentation and drying to improve the organoleptic, or sensory, properties such as taste and flavor of traded cocoa beans. The lab also helps CRIG to ensure that the flavor for which the Ghana origin is known is not lost during breeding for other favorable characteristics like yield and disease resistance.

The establishment of a seven-member sensory panel was established at the flavor laboratory at CRIG. At the time of this report, the sensory panel was undertaking weekly tastings of chocolate and cocoa liqueur prepared from cocoa bean samples from the field. The panel was also holding a tasting session every fortnight via Skype with the TCHO\textsuperscript{15} team. Selections for the panel followed a series of evaluations and training among CRIG staff to identify suitable candidates who could conduct sensory analysis of chocolates.

\textbf{Ghana Quality Innovations (GQI)}

"We are very pleased that through the Ghana Quality Innovations sub-grant the USAID/WCF Africa Cocoa Initiative was able to successfully bring quality and flavor to the forefront of cocoa discourse among public and private sectors actors in Ghana. The level of support and the commitment from COCOBOD and the Cocoa Research Institute of Ghana (CRIG) as well as with coops and farmers to continue to protect and improve flavor quality and value is very rewarding and encouraging."

-- John Kehoe, Director of Sustainability, Guittard Chocolate Company

\textsuperscript{15} TCHO is a luxury chocolate maker based in Berkeley, California. TCHO works with cocoa producers to optimize growing and post-harvest methods improve the flavor of cocoa and was the WCF/ACI technical partner for GQI.
and liqueurs made in the laboratory. Having a sensory panel at CRIG means that samples no longer need to be expedited to other countries such as the USA for evaluation. This has saved time and money, while also expanding CRIG’s potential as a center for flavor analysis within the region. Through the work of the sensory panel and the flavor laboratory, CRIG NARS took over the responsibility of managing the seed gardens verify that new varieties developed during breeding preserve or enhance the flavor traits for the Ghana origin, which attract a premium on the international market.

This work strengthened CRIG’s capacity, which was a key goal of WCF/ACI. The project also worked with four private sector Licensed Buying Companies (LBCs) in the implementation and commercialization of the premium cocoa generated by the sub-award, providing an opportunity for increased farmer income.

At the time of this report, GQI was also working with a producer organization, Cocoa Abrobopa Association (CAA), in Ghana to transfer knowledge in post-harvest techniques for improved flavor of cocoa beans to farmers. In furtherance of this objective, GQI established a second flavor laboratory on the premises of CAA in Dunkwa to process samples from the cooperative into chocolates and liqueurs for sensory analysis and has trained the technical trainers of the cooperatives good post-harvest techniques to pass on to farmers in the group.

3. Combating Child Labor
WCF/ACI’s main contribution to the elimination of the worst forms of child labor are threefold: 1) inclusion of child labor topics in all trainings for extension agents, 2) support to mobile extension message delivery in Ghana, and 3) training of spray service providers who provide specialized application of chemicals to farmers that helps ensure minors are not engaged in the hazardous task of agro-chemical application.

WCF/ACI included these topics in the training of extension agents that was completed in all four countries. These trainings are being reinforced with the inclusion of sections on the worst forms of child labor in contravention of ILO Convention No. 182 in the harmonized extension training manuals that WCF/ACI and IDH funded in Cameroon, Côte d’Ivoire, Ghana, and Nigeria. Extension officers were to use this knowledge to inform farmers about the dangers of involving children in undertaking hazardous tasks like heavy lifting, mistletoe removal, and pesticide application, all of which are included in the worst forms of child labor as described in ILO Convention No. 182.

Under Component 4, the implementation of the Spray Service Provider (SSP) program helped ensure that children are not involved in the application of pesticides and other agro-chemicals in WCF/ACI beneficiary communities. As detailed below, SSPs now provide spray services to more than 50,000 farmers across the four countries. SSPs also institute empty container management schemes. These actions helped to keep pesticide containers away from children and assisted in minimizing the risk that children were exposed to harmful chemicals used in cocoa production, thereby improving overall farm safety. Also, significant reduction in contamination of bodies of water and the restoration of farm ecosystems with the reappearance of organisms like earthworms and snails have been observed in implementing communities since the inception of the SSP program.

**Challenges and Lessons Learned**
The size of the demand for extension service delivery and farmer training services cannot be overemphasized. Both in Côte d’Ivoire and Ghana which have an estimated 600,000 to
800,000 cocoa farmers each, the number of extension staff is less than 500. Reducing this ratio solely with project resources is a daunting task. However, as the experience with the harmonization of extension training manuals proved, it is possible to obtain support from governments and other industry stakeholders. Therefore, though it is a long process, it may be worth the effort to seek support from governments other industry stakeholders to reach more extension staff especially those engaged by the private sector.

About halfway into FY2013, it became clear that funds from IDH earmarked for extension services and farmer training activities under Component 3 would not be disbursed to WCF for implementation. IDH failed to meet the terms of its earlier commitment to WCF/ACI and thus, WCF/ACI was forced to amend the MOU in place between WCF, USAID, and IDH to reflect a change in their $3.5 million contribution from cash to in-kind. The revised agreement was signed May 2013. Delays in concluding an agreement to leverage partner funding to support the training in extension staff in Côte d’Ivoire hindered the process of recruiting consultants in the respective countries to conduct the training as scheduled.

In Cameroon, the process of securing counterpart funding from the Ministry of Agriculture and Rural Development (MINADER) for the training of the full complement of 200 extension agents delayed the training, which should have been completed by September 2015. The main reason for the delay was the need to follow formal bureaucratic processes that require persistent follow up to ensure that the activity does not drop to the bottom of the pile. After detailed discussions, WCF/ACI proceeded to train 90 extension agents that could be covered with the allocated budget for the project.

Considering the smaller number of agents to be trained, the curriculum for the training was strengthened with communication skills so that the trained agents could act as trainers for the remaining 110 agents who did not directly benefit from the WCF/ACI training.

The GQI project continues to garner interest in exploring flavor characteristics as criteria in the sale of cocoa beans. This interest was taken seriously by cocoa breeders, who took advantage of the flavor laboratory in Ghana to integrate organoleptic testing and flavor profile analysis into breeding work. This contributed to the flavors associated with origins are not being lost in the bid to breed for superior yield and tolerance to biotic and abiotic stressors. To this end, GQI initiated discussions for the installation of flavor laboratories in Côte d’Ivoire and Nigeria under WCF/ACI’s follow on, ACI II.

**Component 4: Market-Driven Farming Input Supply Services**

**Overview**

The availability and proximity of agro-inputs can greatly facilitate improvements in cocoa productivity. Based on the findings of studies on the status of agro-inputs coverage and delivery in Côte d’Ivoire, Ghana and Nigeria, WCF/ACI developed models—input credit scheme (Annex 6) implemented by TechnoServe and Spray Service Provider (SSP) program (Annex 7) implemented by CropLife—to fill the gaps in the agro-inputs delivery system for fertilizer and pesticide/fungicide delivery.

In doing this, the project ensured that activities under this component followed the recommendations of the PERSUAP by improving safe and responsible use of pesticides, linking farmers to SSPs, properly managing stocks to avoid accumulation of obsolete pesticides and implementing empty pesticide container management programs. Also, the
program made it easier for farmers to dispose of spent containers in an environmentally friendly manner, which improved overall environmental and farm safety. With these measures, the program is believed to have contributed to the removal of children from this hazardous activity.

**Milestones**

- The Regional Workshop on Soil Fertility Management was held in March 2013 in Côte d’Ivoire and harmonization of cocoa extension training manuals was one of the major recommendations;
- Harmonization of extension training manuals completed in Cameroon, Côte d’Ivoire, Ghana, and Nigeria;
- Comprehensive reviews of agricultural input delivery systems were completed for Cameroon, Côte d’Ivoire, Ghana, and Nigeria. Key recommendations from these reviews were for national cocoa supervisory bodies and agencies to:
  - Update regulatory/registration laws and directives for agrochemicals;
  - Reinforce the fight against counterfeit/unapproved products through policy and institutional strengthening;
  - Train and support existing private sprayers to better service farmers;
  - Develop innovative credit schemes for farmers to access agro-inputs;
  - Provide partial subsidy instead of full subsidy for a limited number of products;
  - Build on the existing government spray gangs to develop private SSPs.
- Both the SSP and input credit programs ended in FY2015 and final data was collected July to September, 2016:

<table>
<thead>
<tr>
<th>Country</th>
<th>Target</th>
<th>Achieved</th>
<th>% Achieved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cameroon</td>
<td>3,600</td>
<td>3,317 (204)</td>
<td>92%</td>
</tr>
<tr>
<td>Côte d’Ivoire</td>
<td>15,000</td>
<td>23,510 (2,500)</td>
<td>157%</td>
</tr>
<tr>
<td>Ghana</td>
<td>15,000</td>
<td>37,020 (10,484)</td>
<td>247%</td>
</tr>
<tr>
<td>Nigeria</td>
<td>6,400</td>
<td>12,793 (1,754)</td>
<td>200%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>40,000</strong></td>
<td><strong>76,640 (14,942)</strong></td>
<td><strong>192%</strong></td>
</tr>
</tbody>
</table>

- It is worth noting that the reach of the SSP program in terms of farmers receiving spray services goes beyond the numbers indicated above. For instance, in Nigeria, two private companies trained 2,000 farmers to provide spray services to more than 20,000 farmers. Also in Nigeria, the USAID MARKETS II project built on the work of WCF/ACI in training SSP trainers to extend training to 308 youths, who were equipped to provide spray services to farmers;
- 914 farmers accessed $177,948 to purchase agricultural inputs including chemicals and fertilizer with repayment rates of 100% in Côte d’Ivoire and 98% in Nigeria under the pilot input credit program. It was estimated that the input credit program generated $210,000 in incremental revenue to participating farmers over the two-year pilot.

**Challenges and Lessons Learned**

It is clear from the assessments of both the input credit scheme and SSP program that there are both tangible (increased yield and income) and intangible (rejuvenated ecosystems with the reappearance of snail and earthworms) benefits from increased access to agro-chemicals. However, the success of input credit schemes to enable farmers to acquire these inputs
depend as much on the improved capacity of financiers as it does on the improved capacity of farmers to access financing. Therefore, while emphasis is usually on training farmers and farmer groups on savings and basic book keeping to enable them to make viable bankable requests for financing, the financiers must also be trained to understand the agronomic calendar and associated concepts in financing agriculture.

The training of extension staff in Cameroon under Component 3 provides an opportunity to engage with stakeholders in the country via the PPPP on the training of more SSPs and the provision of Personal Protective Equipment (PPE). Efforts are being made to coordinate with ONCC and CropLife to ensure that refresher courses are planned in future. There were also efforts to link the SSPs to the market demand for their services.

The provision of a full complement of PPE for trained SSPs was a challenge during the implementation of the SSP program. During data collection for FY2016, it was revealed that a significant number of trained SSPs are not practicing in Cameroon due to the lack of PPE. Consequently, these SSPs would need refresher training and certification to provide effective services to farmers after not having practiced for a while.

A workshop to share the lessons from the SSP program revealed that an empty container management scheme was operational to ensure that farmers have a safe means of disposing of used chemical receptacles. After initial tests indicated that pesticide residue levels in the spent containers were too high for other uses, CropLife contracted a service provider to shred the empty containers before being recycled into new chemical containers.

Experience from the implementation of the input credit scheme revealed that the roles of partners must be set out in very clear and unambiguous terms when signing MOUs to implement such activities. For example, MOUs should contain clauses that define clearly: 1) the terms of payment among the partners, and 2) contingencies and resource for non-compliance of partners.

Project costs per farmer for the input credit scheme, ranging from $319 to $441 in the second year, compared quite unfavorably to the $45 per farmer in Ghana after five years of a similar WCF program that reached more than 6,000 farmers. Although microfinance institutions are better at providing ‘last-mile’ service to distant farmers than commercial banks, the lack of knowledge of the cocoa sector hampered banks’ efforts to ensure promptness of service provision for the package of farm inputs to increase farm productivity. To address this, WCF/ACI recommends that financial partners for similar programs in the future should be included in capacity building, for staff of the financial institution at both branch and head office levels to ensure that the staff understand the need for their disbursement procedures to be well aligned to the input credit and cocoa agronomic calendar.

Two major challenges hindered the replication and scaling up of the input credit models: the control of partner exporters over the pipeline of eligible farmer organizations and high input prices in Nigeria. By providing a ready market for the cocoa that farmers (often in remote rural locations) produce and thereby guaranteeing repayment for any input credit advanced to farmers, exporters control the pipeline of cooperatives/associations that can participate in the credit scheme, as well as the maximum value of credit that those cooperatives/associations can access. This impaired the ability to scale up the scheme by limiting the number of
accessible farmers that could be registered into the credit scheme. Dialogue with key stakeholders helped identify ways to relax these restrictions.

Further training enabled financial partners to appreciate the agronomic calendar and to properly assess the risk involved in lending to cocoa farmers. This training allowed financiers to take on additional risk and lend to farmer organizations outside the exporter-supported credit model.

In Nigeria, farmers’ inability to mobilize the 20% required savings deposit was a major challenge. Also, input prices were 2-7 times as expensive in Nigeria as they were in Côte d’Ivoire and Ghana. Table 6 below demonstrates the relative input pricing negotiated by TechnoServe in each of the three countries in 2014, and the substantial price difference that exists between Nigeria and the other two countries.

**Table 6: Regional Input Pricing**

<table>
<thead>
<tr>
<th>Country</th>
<th>Interest Rate</th>
<th>Average Fungicide Price</th>
<th>Average Insecticide Price</th>
<th>Average Fertilizer Price</th>
<th>Total Package</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Local Currency USD</td>
<td>Local Currency USD</td>
<td>Local Currency USD</td>
<td>USD</td>
</tr>
<tr>
<td>Côte d’Ivoire</td>
<td>16%</td>
<td>12,296</td>
<td>6,877</td>
<td>136,016</td>
<td>$280</td>
</tr>
<tr>
<td>Ghana</td>
<td>27%</td>
<td>196</td>
<td>66</td>
<td>552</td>
<td>$173</td>
</tr>
<tr>
<td>Nigeria</td>
<td>12%</td>
<td>18,398</td>
<td>14,721</td>
<td>86,800</td>
<td>$544</td>
</tr>
</tbody>
</table>

**Other Activities**

**Sub-Regional Workshop on Soil Fertility Management for Cocoa Production**

Over 70 public and private sector representatives of the cocoa sector participated in the WCF/ACI sub-regional workshop on Soil Fertility Management for Cocoa production on February 26-28, 2013, in Grand Bassam, Côte d’Ivoire. The report on this workshop is attached as Annex 8.

The main outcomes of the workshop were an agreement to integrate soil fertility management into extension and farmer training curricula in the sub-region and the formation of a sub-regional working group on soil fertility management. Key recommendations from the workshop include:

- Making fertilizers affordable to farmers by providing credit facilities with requisite arrangements for loan recovery;
- Supporting the national agricultural policy institutions to promote fertilizer use;
- Formulation and production of good quality site-specific fertilizer;
- Establishment of intra-regional collaboration among soil scientists to share knowledge and augment the supply of manpower required by the regions; and
- Exploiting synergies between the cocoa bean collection logistics and fertilizer supply chain to minimize transport-related costs.

The recommendations from this workshop informed the harmonization of extension training manuals in Cameroon, Côte d’Ivoire, Ghana, and Nigeria. The recommendations were also the basis of the IDH fertilizer initiative in Côte d’Ivoire.
Environmental Compliance
WCF requested that USAID add additional branded pesticides to the approved list of phytosanitary products under PERSUAP. The new approved list included products and active ingredients which were available over-the-counter in the implementing countries, but were not included in the initial list of products contained in the PERSUAP document. USAID approved this request in late March 2013, after reviewing the information on the specific products indicated by WCF.

WCF/ACI initiated a market-driven inputs supply services project using trained and certified SSPs to ensure safe use, handling, and disposal of containers for agro-inputs in accordance with the PERSUAP recommendations. The SSP approach entailed training agro-dealers and lead farmers were hired by other farmers to spray their farms. Additionally, some field staff were trained through a training of trainers’ approach. These staff in turn trained agro-dealers and lead farmers to become SSPs by instructing them on the types of pesticides and their active ingredients, how to read a pesticide container label, proper use of protective equipment, triple rinsing and disposal of empty pesticide containers, correct procedures for pesticide and herbicide application, and proper application of fertilizer.

After passing tests of theory and practice during the initial training, the SSPs were certified for two years. Annual refresher courses would be required for recertification. The SSP pilot helped determine farmers’ willingness to pay, how much they are willing to pay, and related arrangements, as detailed under Component 4 above.

The SSP program increased the use of approved agro-chemicals by farmers. The program ensured that agro-chemicals were applied using PPE to protect sprayers and members of farm households against toxic substances during spraying. Also, the use of agro-chemicals in the recommended doses with targeted application to affected areas has limited the number of chemicals used, thereby reducing loss through misapplication and spillage, as well as increasing the diversity of fauna and flora in the farm ecosystem. In addition, SSPs recover and dispose of spent containers appropriately and in line with proper safe disposal practices.

An Outcome Assessment conducted from February to April 2014 to verify outcomes and initial impacts of WCF/ACI activities indicated that a major environmental outcome of the project so far was that farmers reported seeing some organisms like snails and earthworms on their farms that had not been seen for years. This is because of the use of trained SSPs who observe strict agro-chemical application rules. This observation is an indication that the application of agro-chemicals by SSPs does not kill all organisms indiscriminately.
Land Tenure
A joint rapid assessment (Annex 9) by CRIG, USAID, and WCF with a view to identifying land tenure-related constraints to productivity in Ghana’s cocoa sector revealed there are issues with land security and tenure. The problem is particularly acute on the part of sharecroppers, where lack of tenure security acts as a disincentive for significant long-term investments in adoption of improved technologies and sustainable practices.

WCF/ACI Key Learnings
A study of the key learnings from the implementation of WCF/ACI was commissioned to provide a guide to navigating all the ACI reports. The study, which can be found in Annex 10, concluded that the implementation of ACI, is seen to be contributing to consolidating a robust cocoa value chain in Ghana, Nigeria, Cote d’Ivoire and Cameroun through market access, input delivery, credit facilitation, deployment of cocoa hi-tech and capacity building. Also, there is a positive sense of stakeholders’ satisfaction and willingness to utilize services and interventions of ACI across the region.

Also, by facilitating inclusive value chain approaches, the ACI has largely been successful, in giving greater autonomy and representation to cocoa farmers in West Africa, in gaining greater control over the resources they require to achieve higher productivity, profitability and sustainability.

An important lesson was that developing genuine and responsive public private partnerships is a long-term process and one that requires long-term investments and willingness of both parties to support the effort. Dynamics for an emergent market driven model for cocoa input supply services under ACI appear delicate at this stage but are evolving. It is important to continue to accompany such processes, until they are well-grounded to operate effectively, efficiently and independently.

The study recommended:

i. Replication of ACI contribution to the cocoa sector in West Africa as a cocoa value chain model or approach for learning and knowledge management.

ii. Intervention by national governments, alongside private companies, with robust infrastructures and policies, to avert loss of interest in cocoa production and dwindling of national and household income due to competing interests among farmers to cultivate or crops or shift completely.

iii. Advocacy among financial institutions about the investment opportunities along the cocoa value chain and help map out investment entry point for them and collaborate with other institutions delivering this capacity building such as GIZ.

iv. Integration of the effects of mining and logging on cocoa productivity into extension delivery.

Symposium on Next Generation of Cocoa Research
The Symposium on the Next Generation of Cocoa Research was held on November 8-10, 2016 at IITA in Ibadan, Nigeria. Details are available at:
http://www.worldcocoafoundation.org/regional-symposium-2016/
The Symposium brought together about 200 participants from academia, industry and other parts of the cocoa sector to discuss research priorities. The report on the symposium is attached as Annex 11.

Broad themes of the symposium were:

- Attracting and empowering youth and women to cocoa production (Land tenure system and its effect on cocoa production; input supply and credit);
- Rehabilitation and intensification of plantations for sustaining cocoa productivity;
- Risk mitigation plans for pests and pathogens, climate change and soil nutrient depletion;
- Resilience of cocoa farms and farmers through food security, income diversification and environmental stewardship;
- Improving cocoa quality and value in the region;
- Enhancing knowledge exchange for improved adoption of research findings/technology.

The overall goal of the symposium was to establish; 1) a regional strategy for next generation research needs for cocoa sustainability; 2) increased investments in research for development needs; and 3) increased engagement of stakeholders in the region for strengthening research and development capacity and human resource development.

ACI No Cost Extension Approval
USAID granted an extension of WCF/ACI to December 31, 2016. During the extension period, the PMU:

- Organized the Symposium on the Next Generation of Cocoa Research;
- Conducted land tenure baseline survey in Ghana;
- Completed the harmonization of extension training manuals in Cameroon and Ghana;
- Completed the training of extension agents in Cameroon; and

Regional High Level Consultation on CSSVD
Another activity undertaken during the extension period was the Regional High Level Consultation on CSSVD, which took place on October 28, 2016 in Abidjan, Côte d’Ivoire. The Consultation brought together decision makers from regulatory institutions and research bodies in the cocoa producing countries of West and Central Africa as well as representatives of the cocoa and chocolate industry. The agenda included: 1) a presentation of the state of CSSVD in West and Central Africa; 2) agreement on the outlines of a common strategy at the regional level for combating the disease; and 3) productive interactions for the establishment of one or more operational structures responsible for the technical implementation of the strategy. The notes and communique from this meeting can be found in Annexes 12 and 13.

Development and Approval of the ACI II Program
On September 29, 2016, USAID awarded WCF the ACI II Program. Informed by USAID’s Feed the Future strategy and its focus on creating inclusive agricultural supply chains to improve household food security, ACI II’s goal is to sustainably increase cocoa productivity among smallholder cocoa farmers in West Africa.

This will be accomplished through two principle objectives and three sub-objectives:
Objective 1: Increased Production and Use of Quality Cocoa Planting
  o Sub-objective 1.1. Increased Use of Improved Inputs;
  o Sub-objective 1.2. Improved Quality of Planting Materials.


While its focus is productivity gains for smallholder farmers, the ACI II program also intends to conduct research on the broader theory of change that increased productivity has both direct and indirect impacts on household food security. In concert with member companies and through the ACI II intervention, WCF will conduct research to understand the role that income from cocoa has on household food security among West African smallholder farmers. Throughout the life of the activity, the program will intentionally align with efforts to support the status of women and reduce the use of child labor within the cocoa supply chain.

List of Annexes

1. Success Stories;
2. Harmonized Cocoa Extension Training Manuals;
3. LMC Cocoa Comparative Household Economy Study;
4. WCF/ACI Regional Planting Material Capacity Projections;
5. ACBWG Project Year Final Technical Report;
6. Impact Assessment of SSP Program;
7. Impact Assessment of Input Credit Scheme;
8. Report on Sub-Regional Workshop on Soil Fertility Management;
9. USAID - Ghana Land Tenure Study;
10. WCF/ACI Learnings Study;
11. Report on Symposium on Next Generation of Cocoa Research;
12. Regional CSSV High Level Consultation Notes; and