



# **World Cocoa Foundation African Cocoa Initiative (ACI) Phase II**

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## Acronyms

ACBG	African Cocoa Breeders' Group
ACI II	African Cocoa Initiative Phase II
AOR	Agreement Officer's Representative
CCC	<i>Conseil du Café-Cacao</i>
CNRA	<i>Centre National de Recherche Agronomique</i>
COP	Chief of Party
CRIG	Cocoa Research Institute of Ghana
CRIN	Cocoa Research Institute of Nigeria
FTF	Feed the Future
FTFMS	Feed the Future Monitoring System
GDA	Global Development Alliance
GDI	Global Development Incubator
GIZ	German International Development Cooperation
ICRAF	World Agroforestry Centre
IITA	International Institute of Tropical Agriculture
IRAD	<i>Institut de Recherche Agronomique pour le Développement</i>
ISF	Initiative for Smallholder Finance
MINADER	Ministry of Agriculture and Rural Development
PMP	Performance Management Plan
R&R	Rehabilitation and renovation
SNV	Netherlands International Development Organization
TWC	Technical Working Committee
USAID	United States Agency for International Development
USAID/BFS	United States Agency for International Development/Bureau for Food Security
WCF	World Cocoa Foundation

## Glossary

### **African Cocoa Breeders' Group (ACBG)**

The African Cocoa Breeders Working Group (ACBWG) is made up of breeders from Cameroon, Côte d'Ivoire, Ghana, Nigeria, and Togo with representation from the International Institute of Tropical Agriculture (IITA). The ACBWG supports regional collaboration on breeding, given the wide disparities in capacities across the sub-region and the need for improved varieties to meet national rehabilitation goals.

### **African Cocoa Initiative Phase II (ACI II)**

In September 2016, USAID approved a global development alliance program, entitled the African Cocoa Initiative Phase II (ACI II) project, which is purposefully designed to be a direct support to the CocoaAction sustainability platform. ACI II focuses on a limited number of high-value interventions to: 1) increase cocoa production using quality and affordable planting materials; 2) facilitate access to financial services and products; 3) extend access to VSLAs in Côte d'Ivoire; and 4) improve flavor quality of cocoa. All these actions support total farm productivity and resilient agri-food systems among smallholder cocoa farmers in West Africa.

### **Better Than Cash Alliance (BTCA)**

A UN-based global partnership of governments, companies, and international organizations that accelerates the transition from cash to digital payments to drive inclusive growth. The Alliance has over 60 members across 30 emerging markets, including companies and business organizations such as Unilever, H&M, Gap Inc and Grupo Bimbo.

### ***Centre National de Recherche Agronomique (CNRA)***

Côte d'Ivoire's national research institute for agriculture including cocoa, plays a strong role in cocoa productivity research and breeding; active in ACBWG. Involved as national institute in the supply of improved planting material and the assessment of heat/drought tolerant planting material.

### **CocoaAction (CA)**

CA was launched in 2014 as a voluntary industry-wide strategy that focuses on world's leading cocoa and chocolate companies' sustainability priorities with those of the governments of Côte d'Ivoire and Ghana. CA common action and coordinated activities and investments with other key stakeholders improved learning and knowledge management across the sector until its conclusion in 2020. Participating companies were: Barry Callebaut, Blommer, Cargill, Ferrero, The Hershey Company, Mars, Incorporated, Mondelēz International, Nestlé, and Olam.

### ***Conseil Interprofessionnel du Café et du Cacao (CICC)***

CICC is the convening body for professional organizations in agriculture, trade, industry and services of the cocoa and coffee sectors in Cameroon. CICC provides a platform for meetings, exchanges, sharing and reflection to highlight the comparative advantages of the sectors. The CICC is part of a dynamic action, representation, coordination, liaison, and information on its members, which comprise all private sector stakeholders in cocoa and coffee in Cameroon.

### **Cocoa Research Institute of Ghana (CRIG)**

CRIG is the national cocoa research institute of Ghana and host organization for current ACI flavor and sensory laboratory. CRIG has a strong role in cocoa productivity research & breeding; is an active member of the African Cocoa Breeders' Group (ACBG); and is involved in the supply of improved planting material to WCF member companies.

### **Cocoa Research Institute of Nigeria (CRIN)**

CRIN is the national cocoa research institute of Nigerian. CRIN plays a key role in cocoa productivity research and breeding and very active in the ACBWG. CRIN hosts the fourth ACI II flavor and sensory laboratory, established 2020.

### ***Conseil du Café-Cacao (CCC)***

CCC is the national regulatory authority for the cocoa sector in the Côte d'Ivoire. CCC is responsible for the coordination and policy making for cocoa sector in Côte d'Ivoire, including season price setting, farmer training, rural services, and overall sector performance. CCC will work with ACI II as the government representative and partner.

**Ghana Cocoa Board (COCOBOD)**

COCOBOD is the national regulatory authority for the cocoa sector in Ghana. COCOBOD is responsible for purchasing all cocoa destined for export. COCOBOD represents the Government of Ghana's interests under ACI II.

***Institut de Recherche Agronomique pour le Développement (IRAD)***

IRAD is the national research institute for agriculture in Cameroon, including cocoa. IRAD supports ACI productivity research and breeding strategies. IRAD is a key member of ACBG and facilitate the dissemination and delivery of improved cocoa planting material to end-users in Cameroon. IRAD hosts the third ACI II flavor and sensory laboratory in 2020.

**The Alliance of Bioversity International and CIAT**

The Alliance of Bioversity International and CIAT delivers research-based solutions that harness agricultural biodiversity and sustainably transform food systems to improve people's lives in a climate crisis. The Alliance facilitates the development of a standard method for measuring and recording plant performance to support ACI II's planting material work in Objective 1 and the developments of international standards for cocoa flavor and quality under Objective 4.

**Village Savings and Loans Associations (VSLA)**

A VSLA is a type of self-managed microfinance that provides communities with access to savings, credit, and other capacity building services. Association members are self-selected and self-governed. They meet on a weekly basis to deposit their savings.

## Executive Summary

This report contains details of the activities undertaken and progress towards the achievement of ACI II project results from October 2020 to March 2021. Success stories from implementation or project activities can be found in Annex 1.

In September 2016, USAID approved a Global Development Alliance program, entitled the African Cocoa Initiative Phase II (ACI II) project, implemented by the World Cocoa Foundation (WCF). ACI II was designed as a direct support to the CocoaAction sustainability platform. In June 2019, USAID amended the agreement for ACI II to include new activities on Village Savings and Loans (VSLA) in Côte d'Ivoire and extended the end date of the program from September 30, 2021 to May 31, 2022. ACI II focuses on interventions to: 1) increase cocoa production using quality and affordable planting materials; 2) facilitate access to financial services and products; 3) extend access to VSLAs in Côte d'Ivoire; and 4) improve flavor quality of cocoa. All these actions support total farm productivity and resilient agri-food systems among smallholder cocoa farmers in West Africa.

Under Objective 1, “Increased Production and Use of Quality Cocoa Planting Material”, the Institute of Agricultural Research for Development (IRAD) in Cameroon established 18 new farmer plots for the introduction of clonal planting material to farmers, bringing the total to 50. CNRA increased the number of potential heat and drought tolerant clones planted in a 2.3 hectare (ha) centralized budwood garden from 2,188 to 2,739, well on course to the target of 3,032. CNRA also reported third year results on the impact of irrigation on cocoa seed pod production, confirming previous years’ results, which showed significant differences in the number of pods per tree and on bean quality between irrigated and non-irrigated plots. In Ghana, the Cocoa Research Institute of Ghana (CRIG)’s multilocal trials to identify heat/drought tolerant planting material confirmed initial promising Leaf Chlorophyll Content (LCC) and Leaf Fluorescence Content (LFC) levels, both of which are indications of drought tolerance. For nine of the 20 hybrids trialed, one female parent showed promise for rapid stem growth in addition to favorable LFC and LCC characteristics. Based on these results, the trials have been extended for nine months to enable CRIG to capture data on yield levels of the trial varieties.

For Objective 2, “An Enabled Ecosystem for Financial Services”, WCF trained companies using the building blocks for responsible and scalable digitization and set up a financial inclusion working group where companies share lessons from their digitization experience. WCF started work to support companies to map their digitization efforts and to understand the VSLA linkage experience with formal financial institutions in the cocoa sector in Ghana and to identify opportunities for scale. The technical report of this analysis will inform discussions for public-private partnerships to scale up VSLA linkage in the cocoa sector in Ghana.

For Objective 3, “Village Savings and Loans Associations in Côte d'Ivoire”, 72 new VSLAs were established across the cocoa-producing regions of the country. These newly created VSLAs consist of 2,165 members (including 1,808 females). Together, the VSLAs mobilized \$342,009 in savings of which \$176,533 was granted as credit to members. Also, 65 mature VSLAs were linked to two formal financial institutions, which in turn granted \$8,500 in credit to 19 women.

Under Objective 4, “Increased flavor quality of cocoa”, training and calibration for Côte d'Ivoire’s CNRA and Cameroon’s IRAD sensory panels continue with liquor samples for the 2020/2021 crop ready for tasting in May and September 2021. In Nigeria, CRIN has completed all physical renovation works (at the cost of more than \$25,000) at the flavor lab and allocated about \$12,000 for the acquisition of standby generator to ensure continued power supply, ready to commence operation.

Finally, we discuss the effect of COVID-19 on program activity implementation and the mitigation measures employed to alleviate the impact. Almost all activities (meetings, trainings, workshops, working groups) are now conducted remotely. Activities that require in-person interactions are authorized on a case-by-case basis.

## Introduction

The United States Agency for International Development (USAID) issued Cooperative Agreement AID-OAA-A-16-00052 for the African Cocoa Initiative (ACI) Phase II through its Global Development Alliance (GDA) mechanism. The \$12,000,000 program (\$5 million from USAID and, \$7 million in cash and in-kind leverage from WCF members) was to run from October 2016 to September 2021. In June 2019, USAID approved a modification to the GDA for ACI II to include a new activity on VSLA Schemes. This VSLA activity is in line with USAID’s Private Sector Engagement Policy and the Women’s Global Development and Prosperity Initiative. The modification added \$1,039,000 to USAID’s funding for ACI II and extended the period of performance by eight months from September 29, 2021 to May 31, 2022.

Focus countries are Cameroon, Côte d’Ivoire, Ghana, and Nigeria, with the bulk of the effort going to Côte d’Ivoire and Ghana as the focus countries of the CocoaAction strategy. ACI II follows the successful implementation of the first phase of the WCF/ACI project, from 2011 to 2016. The program is aligned with the WCF vision of a sustainable and thriving cocoa sector, where farmers prosper, communities are empowered, and the planet is healthy. WCF is achieving this vision through a stronger “systems approach” that integrates the various individual actions and actors into a holistic framework to drive the change needed to reach our shared vision.

CocoaAction was a voluntary industry-wide strategy that focused on the world’s leading cocoa and chocolate companies’ sustainability priorities with those of the governments of Côte d’Ivoire and Ghana, and other key stakeholders for common action, coordinated activities and investments, and improved learning and knowledge management across the sector. In 2016, CocoaAction companies agreed on a set of key performance indicators (KPIs) and a common framework for measuring results and have since been reporting on these indicators to test hypotheses and make continuous improvements to the strategy. CocoaAction implementation ended in 2020.

ACI II’s goal is to sustainably increase cocoa productivity among smallholder farmers in West Africa. ACI II objectives are: 1) Increased availability and the use of improved cocoa planting material; 2) An enabled ecosystem for financial services; 3) Improving access to VSLAs in Côte d’Ivoire; and 4) Increased flavor quality of cocoa.

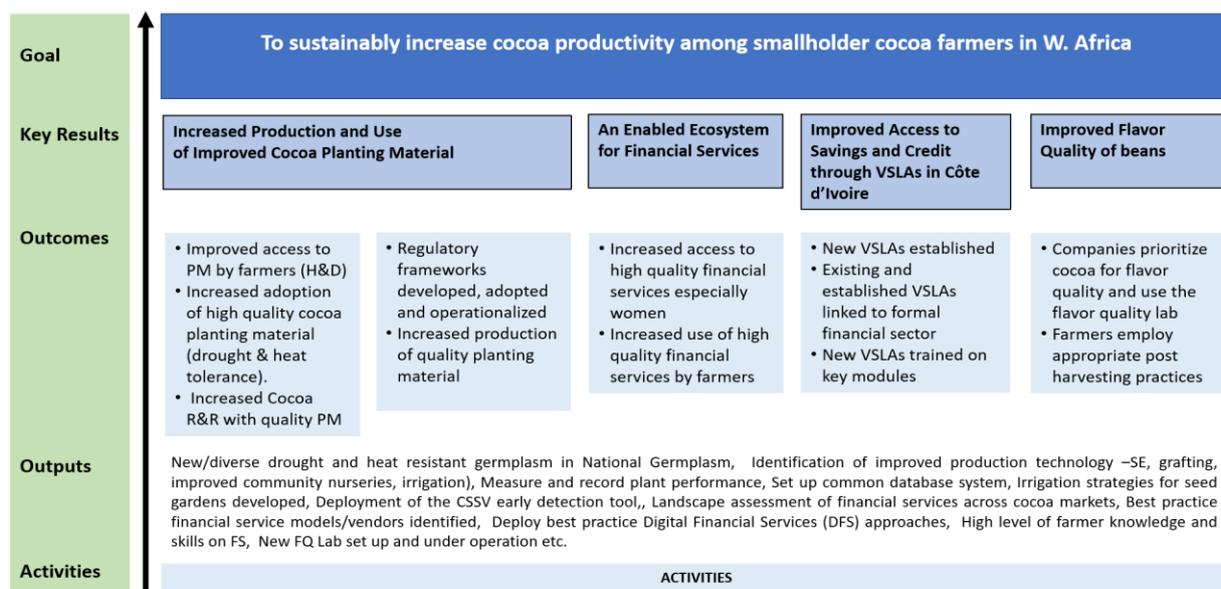


Figure 1: Updated ACI II Results Framework

## Objective 1 – Increased Availability and Use of Improved Cocoa Planting Material

Over the years, cocoa breeding programs internationally, and in West Africa, have produced new cocoa clones and hybrids with varying levels of tolerance to the most significant biotic and abiotic stressors of the crop. These breeding efforts have focused on increasing the productivity of cocoa alongside the threat of pathogens and abiotic stressors. However, the progress made in breeding is not apparent at the farm level, partially because many improved varieties have yet to be approved for distribution to farmers. This contributes to persistently low and unpredictable yields, estimated at less than 500 kg/ha across West Africa, which produces 70% of the world's cocoa. This low level of yields is also attributable in part to the limited application of good agricultural practices by farmers, and the aging tree stock, which is made up of old low-yielding and susceptible varieties.

Objective 1 translates the gains and progress made in breeding on farm. This is achieved through increased production of improved planting material but also the increased use of this improved planting material (in the form of hybrid seed pods, hybrid seedlings and clones) by farmers. Using company supply chains, WCF aggregates request for seed pods and seedlings and follows up with the Seed Production Division of COCOBOD to ensure that the requests are met.

### Outcome 1.1 Increased production of quality planting material using new genetic material and technologies

To address the challenge of heat and drought stress, ACI II has supported Côte d'Ivoire and Ghana to identify tolerant varieties, which farmers can use in areas with high frequency of drought and heat stress during prolonged dry spells. These activities are implemented by CRIG in Ghana and CNRA in Côte d'Ivoire. In Ghana, CRIG uses multilocal (at Afosu, Akomadan, Maban, Tafo and Tepa) trials with the best-performing of the recently developed planting material including clones and hybrids. While in Côte d'Ivoire, CNRA has established a budwood garden to serve as centralized repository of potential heat and drought material that survived previous severe drought conditions.

In collaboration with the Alliance of Bioversity and CIAT, ACI II is coordinating the implementation of CocoaTarget in Ghana, through which farmers participate in the selection of climate adapted planting material using the Tricot<sup>1</sup> method.

### Key Achievements and Milestones

#### Development of heat and drought tolerant planting material in Ghana

Between October 2020 and March 2021, CRIG collected data from the trial sites, further confirming initial results reported in November 2019 and 2020 which indicated clear differences in stem diameter, and, by extension, early establishment between the various hybrids. The FY2021 data also confirmed previous measurements of leaf chlorophyll content (LCC) and leaf fluorescence content (LFC) for nine of the 28 hybrids in the trial. These March 2021 results go further to show that at least three of the hybrids have exceptional stem diameter, LCC and LFC characteristics, an indication of tolerance to heat and drought conditions. Based on these results, the trials have been extended till May 2022, to allow CRIG to collect the first set of data on pod production, which will be used as a proxy for yields when combined with known production characteristics of the trial varieties.

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<sup>1</sup> Triadic Comparisons of Technologies (tricot) is a new approach to test crop varieties and other technologies on-farm, under realistic conditions. Tricot is a ready-made methodology for the dissemination of varieties and other technologies and practices in highly variable areas. Through simple and hands-on experimentation, the participating farmers identify innovations that will be of real benefit to them.

### Using the “citizen science” approach in Ghana to test clones and hybrids for climate adaptation

In FY2021, 16,200 cocoa seedlings were distributed to 270 of the 300 participating farmers. All but 30 (due to high nursery mortality rates) of the 300 participating farmers received cocoa seedlings to establish their trial plots. This follows the distribution of seedlings for food crops, plantain suckers for shade to all participants in 2019. Further details are available in Annex 2.

At a district learning platform event in February 2021, farmers shared the following lessons:

- The use of weedicides is not advisable as it kills wide range of crops and plants, thereby reducing farmers’ access to planting materials.
- Farmers prefer cocoa pods (seeds) to seedlings, which have poor survival rates.
- Smallholder farmers seek farming advice and information from colleague farmers, the Ministry of Food and agriculture, non-governmental organizations, and learn from their personal farming experiences.
- Farmers within the districts provide shade for their cocoa seedlings to withstand the current heat from the sun, usually using plantain.
- Farmers peel plantain suckers to control pest and diseases.
- Women are active in finding various innovations to boost the survival of their crops.

A subsequent national learning event in March 2021 identified the following bottlenecks in planting material production and distribution:

- Breeding or varietal development;
- Seed multiplication and nurseries;
- Seed distribution; and
- Seed use by farmers.

And proposed the following solutions:

- Bring nurseries closer to farmers;
- Increase the multiplication, availability, and access to temporary shade crop on time before the transfer of the cocoa seedlings to the field;
- Popularizing hybrids; and
- New public-private collaboration.

### Develop and distribute heat and drought tolerant planting materials in Côte d’Ivoire

By the end of March 2021, CNRA had increased the number of plants (in the six plots totaling 2.3 hectares) from 2,188 to 2,739, well on course for the target of 3,032 by September 2021. Table 1 shows the status of plantings in the budwood garden at Soubré.

Table 1. Status of establishment of budwood garden for potential heat/drought tolerant clones

Plot	Size (ha)	Number of Plants	Balance of plants for 2021
1	0.32	418	0
2	0.32	418	0
3	0.32	418	0
4	0.32	418	0
5	0.51	680	0
6	0.51	387	293
<b>Total</b>	<b>2.3</b>	<b>2,739</b>	<b>293</b>

### Observation of the impact of irrigation on pod production in seed gardens

Increasingly challenging environmental factors and prolonged dry spells have increased the need for irrigation in the production of cocoa as more areas of intense production turn marginal. This is even more important in seed gardens that supply planting material in the form of hybrid seed pods from which farmers raise seedlings to establish new farms or to replace old or diseased trees. However, due

to significant cost involved in the installation and maintenance of irrigation infrastructure, a clear business case must be made to justify the costs.

ACI II has supported CNRA to document empirical impact of irrigation on seed pod production in seed gardens at CNRA stations at Divo and Soubré to make the business case for irrigation. The irrigation system is established in two of the seed gardens established during WCF/ACI between 2014 and 2016. This activity compares irrigated and non-irrigated seed gardens of the same age growing under similar conditions over a 36-month period (2018 to 2021) to document the impact of irrigation on the quantity and quality of seed pod produced in these seed gardens. Parameters under consideration include the number of pods formed after pollination, number of matured pods and the quality of beans in matured pods.

At the Divo station, the comparison is between 300 irrigated trees and 300 non-irrigated trees all planted in 2014 and between 150 irrigated trees and 150 non-irrigated trees planted in 1972. At Soubré, the comparison is between 448 irrigated trees and 504 non-irrigated trees planted in 2014, and 480 irrigated trees and 520 non-irrigated trees planted in 2019.

In October 2021, CNRA undertook the third harvest from the plots under observation. The results, which are presented Tables 2 and 3, indicate more production and less wilting in irrigate plots while Tables 4 and 5 continue to show clear differences in all bean quality parameters (number of matured pods harvested per tree, pod size, number of normal beans per pod and average bean weight) for irrigated and non-irrigated plots.

Table 2. Results of observation of the impact of irrigation on pod production after third harvest at Divo

Plot Type	Plot 1				Plot 2			
	Number of trees	Pods less than 2 months old	Pods 2 to 5 months old	Number of wilted cherelles	Number of trees	Pods less than 2 months old	Pods 2 to 5 months old	Number of wilted cherelles
<b>Irrigated</b>	300	3,944	6,799	174	195	8,543	3,390	77
<b>Non-irrigated</b>	300	951	3,719	437	195	6,125	1,747	293

Table 3. Results of observation of the impact of irrigation on pod production after third harvest at Soubré

Plot Type	Plot 1				Plot 2			
	Number of trees	Pods less than 2 months old	Pods 2 to 5 months old	Number of wilted cherelles	Number of trees	Pods less than 2 months old	Pods 2 to 5 months old	Number of wilted cherelles
<b>Irrigated</b>	300	4,832	12,549	378	300	3,323	9,873	897
<b>Non-irrigated</b>	300	3,001	8,297	894	300	2,994	6,081	1,243

Table 4. Results of observation of the impact of irrigation on bean quality after third harvest at Divo

Plot Type	Plot 1				Plot 2			
	Number of Pods	Pod Size (mm <sup>3</sup> )	Normal Beans	Bean weight (g)	Number of Pods	Pod Size (mm <sup>3</sup> )	Normal Beans	Bean weight (g)
<b>Irrigated</b>	500	629	43	1.25	500	558	47	1.42
<b>Non-irrigated</b>	500	562	41	1.14	500	510	45	1.34

Table 5. Results of observation of the impact of irrigation on bean quality after third harvest at Soubré

Plot Type	Plot 1				Plot 2			
	Number of Pods	Pod Size (mm <sup>3</sup> )	Normal Beans	Bean weight (g)	Number of Pods	Pod Size (mm <sup>3</sup> )	Normal Beans	Bean weight (g)
Irrigated	500	824	40	1.66	500	556	41	1.56
Non-irrigated	500	433	26	0.40	500	361	33	1.19

The results obtained (Tables 2-5) illustrate the positive impact of irrigation on pod production with up to three times less wilting of cherelles on irrigated plots, the number of pods per tree, the average pod size, the number of normal beans and bean weight compared to non-irrigated plots. These results confirm the preliminary data from 2020 and demonstrate the need for the application of good agricultural practices when handling clones. It is clear from Plot 1 in Table 4 (established between 2014 and 2016 with the same genetically verified material under WCF/ACI) in Soubré, where pods and beans have the most favorable characteristics when the trees are irrigated but fare worse when the trees are not irrigated.

### Introducing clonal planting materials to farmers in Cameroon

Between October 2020 and March 2021, IRAD established 12 more plots for the introduction of clonal planting material to farmers in Cameroon, bringing the total to 50 on-farm plots established at Biakoa and Ntui Subdivisions of the Center Region of Cameroon. This was accompanied by improved supervision, leading to less than 5% losses during establishment in more than 45 of the 50 plots. Table 6 provides a summary of the status of FY2021 activities as of March 31, 2021.

Table 6. Summary of activities for introduction of cocoa clonal planting material to farmers in Cameroon between October 2020 and March 2021

Component	Activity	Specific Tasks	Major Achievements
Capacity building for introduction of clonal planting material to farmers	Training of farmers groups	Training on the management of cocoa clonal plots	Farmers trained individually during field days and follow-up visits
Production of shade plants (agroforestry, fruit trees species and plantain plantlets)	Agroforestry species	-Production of root stocks -Production of improved plants	-About 400 improved plum seedlings produced -Two hundred (200) <i>Irvingia gabonensis</i> root stocks produced
	Fruit trees	-Filling of polyethylene bags -sow seeds for the production of rootstock -Budding of improved varieties	- About 2,500 improved citrus plants (orange, tangerine, lemon, and grape); 1,000 improved pear and 1,000 soursop plants produced
	Plantain seedlings	- Filling and lining of polyethylene bags - Transplanting and acclimatization of plantlets	10,000 plantain plantlets produced
Production of clonal material	Production of root stock	-Filling of polyethylene bags -Plant cocoa beans in the filled bags and water daily.	Produced 12,000 root stock, in badges to enable varied maturation and continues budding
	Budding and maintenance of budded plants	-Harvesting of scion form the bud-wood garden -Budding of 20 of IRAD best clones	Successfully produced 3,000 budded plants (grafting process on-going)

Monitoring of already established clonal plots	Assessment of rate of establishment of clonal plots	Inventory of mortality of clonal material	Establishment of at least 40 new clonal plots in 2019 & 2020 at a minimum survival rate of 90%
		Inventory of mortality of agroforestry species	Successful establishment of temporal and permanent shade which have the capacity to produce alternative income

## Outcome 1.2 Increased adoption by companies of best practice improved technologies for production of high-quality cocoa planting material

WCF has been coordinating and facilitating the supply of improved hybrid cocoa from member companies to the Seed Production Division (SPD) stations of COCOBOD in Ghana. This was achieved by providing pod request templates to member companies to specify the quantity of pod required to produce hybrid seedlings for their farmers based on their operational districts in the cocoa growing regions. The request was aggregated and submitted to SPD, which allocates the quantity of hybrid pod requested across their stations for collection by member companies in the cocoa growing districts. Member companies are notified through emails and phone calls of the SPD stations assigned to them for collection of their cocoa seed pods.

### Key Achievements and Milestones

#### Distribution of improved hybrid seed pods and seedlings

In Ghana, WCF supported the distribution of 272,125 seed pods from SPD stations to 10 companies in-country. These pods raised more than 3.3 million seedlings. These seedlings helped 22,215 farmers in at least 424 communities to plant 2,947 hectares of farmland. The distribution of improved planting material and the associated training in nursery management, combined with other good agricultural practices help farmers replace their ageing tree stock with high yielding varieties.

Between October 2020 and March 2021, companies requested 846,607 hybrid cocoa seed pods that could produce an estimated 22,395,910 hybrid seedlings. Of this request, companies have received 322,124 of the improved hybrid cocoa seed pods from SPD from which they can produce an estimated 9,663,720 seedlings to be distributed to farmers and to ensure that farmers.

### Challenges

The distance to SPD stations remains one of the main challenges for companies, especially when they cannot obtain the full quota of allocated pods after driving long distances for collection. COVID-19 related restrictions compounded this challenge, which could explain the low number of pods that companies had received at reporting time. It is expected that this development will have knock-on adverse effects for the distribution of improved hybrid cocoa seedlings to farmers in the second half of FY2021. Cocoa Target participants were right when they identified the distribution of seed pods as one of the bottlenecks within the cocoa planting material supply chain. WCF will continue to work with member companies on means to decentralize the production and distribution of cocoa seed pods and seedlings in Ghana and in the other ACI II focus countries.

## Objective 2 – An Enabled Ecosystem for Financial Services

Recognizing [how digital payments can be a game-changer for farmers](#), under the ACI II program, WCF and the UN-based [Better Than Cash Alliance](#) (BTCA) are working in partnership to support the growth of digital payments in the cocoa value chain to promote inclusive growth, boost productivity and improve the livelihoods of smallholder cocoa farmers, especially women. WCF achieves this through technical assistance to WCF member companies; support to improve farmer access to financial services; and the establishment of a pre-competitive platform for interaction and exchange between and among Digital Finance Services (DFS) partners. In Ghana, WCF and BTCA have promoted and supported digitization by large cocoa buyers, licensed buying companies (LBC) and other agribusiness intermediaries to reduce the impact of the [cost of cash to Ghana’s cocoa sector](#).

The objectives of this initiative are:

- **Learn:** Better understand the opportunities and challenges of introducing digital payments to cocoa farmers;
- **Disseminate:** Share learnings and best practices; and
- **Support:** Support WCF members with neutral and responsible DFS-related technical assistance.

The cost of cash transactions in the cocoa sector were documented and reported in FY2020, raising the question on the cost of digitization. WCF plans to review and document the costs associated with the process of digitization from technological infrastructure to physical deployment of field agents to the creation of a network of service providers from whom cocoa farmers can make digital payments for goods and services within their communities.

### Outcome 2.1 Increased availability and use of high-quality financial services by farmers

Over the past four years, WCF member companies operating in Côte d’Ivoire and Ghana, and CocoaAction companies have adopted VSLA models as a key strategy under the empowered communities pillar of the WCF Pathway to Sustainable Cocoa.<sup>2</sup> VSLAs remain a key component of WCF member companies’ women’s empowerment programming approach to build women’s agency, improve farmers’ savings culture and enhance their access to credit. Globally, VSLAs have become a sustainable financial inclusion model to mobilize unbanked populations—especially in the rural sector—into a social support network to cultivate their savings culture and enhance their access to credit and other financial services.

The government of Ghana has adopted policies<sup>3</sup> to increase financial inclusion in the country from the current 58% to 85% by 2023. This policy references the work that WCF has done with BTCA in documenting the building blocks to responsible and scalable digitization. One route to achieving the 2023 target is to link all savings groups to the formal financial sector and to digitize all payment systems. This calls for a complete understanding of the nature and magnitude of VSLA linkage in the cocoa sector to guide industry preparation to build a more responsive VSLA linkage ecosystem. Though several chocolate companies and NGOs working in the cocoa sector have varied VSLA interventions, it is unclear how many savings groups exist within cocoa growing areas and the financial services accessible to these savings groups.

To address this knowledge gap, WCF conducted a landscape analysis to understand the overall VSLA linkage experience with formal financial institutions in the cocoa sector in Ghana and identify opportunities for scale. The technical report of this analysis, available in Annex 4, with an

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<sup>2</sup> ToR for VSLA Business and Income Case Study, attached as Annex 3 to this report.

<sup>3</sup> <https://mofep.gov.gh/press-release/2020-05-18/government-launches-new-policies-to-speed-up-financial-inclusion-and-digital-payments-to-transform-the-economy>

accompanying blog that, when disseminated, will inform discussions for PPP to scale up VSLA linkage in the cocoa sector in Ghana.

The specific objectives of the landscape analysis are to:

- Estimate the number of savings groups and their geographical spread in the cocoa growing areas;
- Determine the form of savings group linkage in the cocoa sector;
- Identify key stakeholders involved in savings group linkage to formal financial institutions; and
- Identify opportunities for scale up.

## Key Achievements and Milestones

### Training of LBCs and companies on the building blocks on responsible and scalable digitization

To ensure that companies effectively use the tools that have been developed based on the evidence of the [cost of cash to Ghana's cocoa sector](#), WCF and BTCA trained representatives of companies using the [four building blocks for responsible and scalable digitization](#). Beyond Beans, which is directly involved in the payment of farmers at the last mile through their partner—an LBC called Cocoa Merchants Limited—shared their experience with participating companies including Barry Callebaut/Nyonkopa, Cargill, Cocoa Merchants Limited, JB Cocoa, Olam, Mars Wrigley, Mondelez International, Nestlé, Sucden, and The Hershey Company. The four building blocks for responsible and scalable digitization focus on:

- Know their smallholder farmers;
- Build an internal and external value proposition for digitization;
- Enable farmers to spend funds and access service digitally by building a robust digital acceptance ecosystem; and
- Sensitize company staff and farmers on the value of digitized payments.

### Setup and management of financial inclusion working group

ACI II set up a financial inclusion working group, where participant companies have been effectively participating in monthly calls to share lessons about financial inclusion and their integration into companies' sustainability interventions. The topical areas of interest for the financial inclusion working group are:

- Implementing digital financial services;
- Developing farmer digital procurement tool;
- Strengthening farmer professionalization through the inclusion of financial and digital literacy in training curriculums and farm business services;
- Organizing target beneficiaries into saving groups and build their capacity; and
- Linking savings groups to financial institutions and co-design financial products.

### Supporting company digitization efforts

Following the technical assistance provision and the intended scale up, WCF has engaged member companies to map out their digitization efforts. Featuring prominently among companies' efforts are digitization of premium payments, payments of child support stipends digitally (as part of Nestlé Child Labor Remediation efforts through ICCO) and digitization of VSLAs. WCF issued a DFS working document (see Annex 5) to guide companies to undertake this activity.

### Mapping liquidity management agents in cocoa growing districts as part of the ecosystem buildout to support digitization

Digitizing cocoa payments alone is not sufficient to drive DFS adoption at scale in Ghana's cocoa supply chain. Success in this regard depends largely on developing an ecosystem in which farmers can purchase goods and services digitally without needing to cash-out. Access to digital services (financial

or non-financial) that present a good value proposition for the farmers is also critical. Building a robust digital payments acceptance ecosystem in Ghana is essential for farmer acceptance and scale up. Therefore, it is important to understand the penetration of mobile money agents and liquidity management and support agencies/companies in cocoa growing regions/districts. For example, NFortics—a leading provider of liquidity support to LBCs—has 1,150 agents in 17 (out of 62) cocoa districts and 4 (out of 7) cocoa regions.

Data collection on the number of mobile money agents in districts for which member companies are undertaking digitized payments is being assessed. This will provide the necessary support to identify suitable value chain actors that can be set up as agents to provide liquidity support. Also, suitable expenditure points in cocoa growing communities are being assessed for digitization to enable recipients of digital money to spend their fund without recourse to cash.

### Support the growth of digital payments in Côte d'Ivoire

As part of the greater goal of promoting engagement and implementation efforts of large cocoa buyers and their agribusiness intermediaries. WCF, in collaboration with BTCA, is looking to explore the digital payments landscape in Côte d'Ivoire's cocoa sector, the world's largest producer of cocoa in the world. The objectives include:

- Map and evaluate past and current payment digitization initiatives completed by large cocoa buyers, financial service providers (FSPs), Le Conseil du Cafe-Cacao and other government and non-government bodies.
- Provide a comprehensive review of policy and regulatory related issues that have an impact on payment digitization efforts in Côte d'Ivoire.
- Complete a comprehensive mapping of payment providers and other digitally enabled financial service providers who have the capability and track record of being active in the cocoa space, whether in digitized payments or other digital service delivery. Ensure inclusion of all digitally enabled financial services that can offer value added to cocoa farmers in rural areas i.e., access to credit for input saving schemes, insurance, and pension systems access to energy or education.
- Develop a comparison of the cost of cash vs. digital payments i.e., using publicly available information as well as stakeholder interviews. This includes broad information about average cash losses per year.
- Make recommendations and interventions, including pre-competitive collaborative actions if relevant, to scale up digital financial services for cocoa farmers and agribusiness companies in Côte d'Ivoire.
- Develop content for a DFS workshop to be held in Côte d'Ivoire for WCF member companies across the supply chain.

## Objective 3 – Village Savings and Loans Associations (VSLA) in Côte d’Ivoire

VSLAs are community-based women's organizations with an average of 25 members each. VSLA members regularly contribute to a savings fund based on an unanimously agreed amount and, from the funds saved, grant each other loans. The repayment of the loans is made with an interest rate that increases the amount available in the fund. At the end of each cycle, members share the total amount of the fund among themselves. Each member therefore recovers his or her contributed savings with an additional gain, via the interest.

The objective of the VSLA Program in Côte d’Ivoire is to increase the capacity of impoverished cocoa growing households, and especially their female members, to manage their financial resources and withstand shocks to their livelihoods by providing access to three basic financial services: savings, credit, and enhanced household income. This VSLA activity, which is in line with USAID’s Private Sector Engagement Policy and the funded by USAID Women’s Global Development and Prosperity Initiative, is developing and strengthening savings and credit in communities where Barry Callebaut, Blommer, Cargill, Hershey, Mars Wrigley, Mondelēz International, Nestlé, and Olam source cocoa in Côte d’Ivoire.

This activity focuses on the establishment of 384 new VSLAs and the linkage of 550 existing VSLAs (including 74 of the total new VSLAs created) to the formal financial sector by May 2022. This is a crucial step in supporting small and micro-enterprises’ access of adapted financial services. In all, the activity plans to reach at least 20,925 members of VSLAs. Also, through gender committees in charge of organizing dialogue and awareness-raising sessions on gender issues the activity aims to reduce the risk of beneficiaries becoming victims of gender-based violence because of the VSLA.

### Key Achievements and Milestones

#### Creating new VSLAs

From October 2020 to March 2021, VSLA activity implementation in the field resulted in the creation of 72 groups. These newly created VSLAs consist of 2,165 members (1,808 female), more than 42% of whom are less than 30 years old. This brings the total to 359 VSLAs with a membership of 9,404 (8,349 female). During the period, VSLA awareness-raising, information, and savings meetings, with groups were held in strict compliance with health protection measures (hand washing and social distancing).

As a result of these activities, the VSLAs mobilized \$342,009 in savings, of which \$176,533 was granted to members as loans. The bulk of these loans (65%) was invested in trade to increase income generation, while 11.3% was invested in cocoa production almost 9% and 8% went towards food crops and education, respectively.

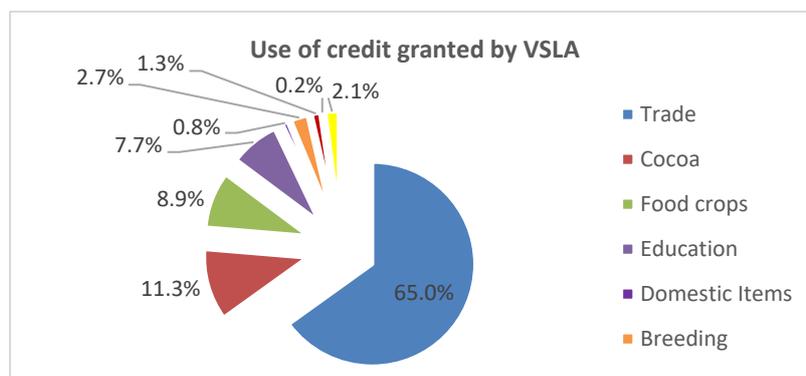


Figure 2: Use of credit granted by VSLA from member savings.

### Linking established VSLAs to formal financial institutions

An analysis of more mature VSLA groups was conducted to assess their performance and readiness to connect to formal financial services, followed by training on financial products for members to facilitate account opening. These efforts yielded the linkage of 65 existing VSLAs to two formal financial institutions. Of the 65 linked VSLAs, 39 saved \$1,800 with the two financial institutions. Based on these and previous savings from linked VSLAs, the financial institutions granted \$8,500 in credit to 19 women, which was invested in trade.

### VSLA trainings

VSLAs have provided a platform for members to have access to both informal financial services and training in selecting, planning, and managing income-generating activities. Beyond the financial literacy trainings, the VSLAs facilitated training for 281 (126 women) members on good agricultural and climate smart agricultural practices, while 124 (115 women) member received basic literacy training from the national directorate for basic and non-formal education.

### Gender, child health, and nutrition

Activities related to gender within the VSLAs facilitated couples' dialogue. Gender committees were set up for each group, with five members per committee. Committee members (women and men) were drawn from among VSLA members and community leaders. The role of these committees is to serve as advisory, assistance, and conflict resolution bodies within households, and to raise local awareness to reduce gender disparities and increase women's participation in household and community decision-making.

By March 2021, 124 new gender committees have been registered in this reporting period. These gender committees (made up of 25 men and 273 women) have been trained on couple's dialogue methodology to enhance their understanding of the conditions and techniques for conducting couple dialogue sessions, gender concepts and stereotypes, forms of inequity and gender-based violence. These engagements led to 290 couple dialogue sessions have been held in the communities with 897 VSLAs members (48 men and 849 women). Also, 43 VSLAs with 1,154 members completed the seven-couple dialogue main modules: Gender concept, stereotypes, communication, female leadership, power, law and politics, and gender-based violence. Positive effects of couple dialogues on male-female relationships have been observed. Some cases have been reported in the success stories in Annex 1.

VSLA groups receive coaching support services to help members plan activities on child protection, along with income generating activities. Between October 2020 and March 2021, 560 members from 14 VSLAs received support on child health and nutrition, as follows:

- Development of 16 business plans.
- Support of 16 groups on agricultural practices including clearing, preparing, and reserving arable land for production.
- Training of 281 VSLA members—including 126 women—on good agricultural practices and climate smart agriculture.
- Providing agricultural equipment including graters and pressers for cassava processing.
- Awareness raising and training of Child Protection Committees (CPC) on topics about child labor issues, nutrition and health of children, and children birth registration.
- Awareness raising of the communities on child labor and the use of phytosanitary products by children.

### Challenges

COVID-19 was the biggest challenge in 2020 as activities like VSLA formation engagement meetings, were prohibited in the first half of FY2021. This is evident in the lag in the linkage of VSLAs to financial institutions because of the significant reduction in the pace at which new groups could be formed. As COVID-19 vaccinations are rolled out in implementation areas and activities pick back up, the situation is expected to normalize, allowing the internal resilience that VSLAs have demonstrated during the pandemic to translate to more linkages with formal financial institutions.

## Objective 4 – Increased Flavor Quality of Cocoa

ACI II is working to ensure that flavor quality, which is the reason chocolate makers include cocoa from specific origins in their recipes, is not lost in the pursuit of other desirable traits like higher yields and disease resistance during breeding. ACI II achieves this through the cocoa flavor quality laboratories that provide the tools to enable national cocoa research institutes to integrate flavor characteristics into their cocoa breeding programs. The flavor laboratories also make liquor from cocoa beans for the training of cocoa extension staff and, subsequently, cocoa farmers on the effects of harvest and post-harvest practices on flavor development.

During the first phase of ACI from 2011 to 2016, WCF supported the establishment of a flavor quality laboratory at the Cocoa Research Institute of Ghana (CRIG). WCF supported the transitioning of the laboratory to CRIG, which operated the lab without WCF support from December 2016 to March 2018. In April 2018, a new MOU was signed between WCF and CRIG to implement activities under ACI II, which includes WCF providing larger scale equipment, and in February 2020, WCF member Ezaki Glico cut the sod for the construction of a new flavor laboratory and Centre of Excellence at CRIG. WCF also supported the establishment of a second flavor quality laboratory at the *Centre National de Recherche Agronomique* (CNRA) in Côte d’Ivoire in 2019 and a third lab at IRAD in Cameroon in 2020. In March 2021, CRIN completed physical renovation works at their headquarters for the establishment of the fourth flavor laboratory, in Nigeria. These laboratories have provided the two countries with the capacity to train cocoa extension staff and farmers on appropriate harvest and post-harvest techniques to ensure that traditional flavor quality is maintained.

ACI II engaged a consultant, Dorine Kassi, who is working directly with staff of CRIG, CNRA, CRIN and IRAD to bring the flavor labs up to international standards and to document the standard operating procedures (SOP) for the operations of the labs and equipment, fermentation and drying, tasting sessions and trainings. It is expected that each country will adapt the SOP documents and will include these SOPs in their standard manuals for flavor quality laboratory management.

### Outcome 4.1 Increased use of appropriate post-harvest practices by farmers that ensures high flavor quality of cocoa

#### Improve the knowledge and skills of government extension agents and farmers on flavor quality

With the sustained low price of cocoa on the global market over the years, farmers could earn more by producing and selling better quality beans like cooperatives that supply niche chocolatiers have been doing. In January 2021, ACI II assisted CNRA, CRIN and IRAD to flavor quality activity implementation work plans for the training of cocoa farmers on appropriate harvest and post-harvest techniques required to produce cocoa beans with improved flavor quality. Similarly, ACI II is facilitating discussions between cooperatives and the lab teams at CRIN and IRAD to provide flavor quality trainings to their farmers once the newly established labs are up and running in both countries. Unfortunately, the period for implementation of these activities in FY2020 coincided with COVID-19 restrictions on movement. ACI II will pick up these activities in FY2021 with engagements in all four countries.

### Key Achievements and Milestones

#### Supporting training on flavor quality in Côte d’Ivoire

ACI II of WCF completed the establishment of a second flavor laboratory at CNRA at Bingerville in 2019 and provided laboratory management training to the CNRA team in 2020, after CNRA completed all required civil works for the lab. Between October 2020 and March 2021, members of the lab team participated in regional tasting sessions with participants from Cameroon and company experts from Guittard, Seguinte Cacao and TCHO. The team undertook fermentation, drying and prepared liquor

from cocoa clones from CocoaAction trial plots as well as hybrid introduced to farmers at different periods over the past few decades.

The team has prepared liquor samples from the 2020/2021 crop, which have been dispatched to all partners in preparation for tasting sessions scheduled for May and September 2021. With this steady progress, WCF plans to hand over the lab formally to CNRA in September 2021.

### [Building capacity of flavor quality laboratory team in Cameroon](#)

IRAD in Cameroon received flavor lab equipment in March 2020. Despite COVID-19 related restrictions, the team was able to virtually train to use the equipment to produce cocoa liquor, and to participate in tasting sessions with the WCF consultant and counterparts at the CNRA lab. Further training sessions—both virtual and in-person—have been planned for May and September 2021. In addition, WCF is in discussions with the Alliance of Bioversity and CIAT to use the Cocoa of Excellence process as an additional means of training and calibration for the lab’s tasting panel.

### [Establishing new flavor quality laboratory in Nigeria](#)

CRIN has completed all physical renovation works (at the cost of more than \$25,000) at the flavor lab and allocated about \$12,000 for the acquisition of a standby generator to ensure continued power supply. A summary of the renovation work is available in Annex 7. This follows recommendations that Dorine Kassi made during an inspection visit to CRIN in 2019. CRIN received the bulk of the equipment for the lab in 2020 at the peak of COVID-19 restrictions, when Nigeria was under nationwide lockdown. The last outstanding pieces of equipment are expected to be delivered by mid-June 2021, in time for the first training for the lab team at the end of June. Training for the Nigeria lab team will complete conclude the establishment of the fourth and last lab under ACI II and increase West Africa’s potential to produce quality cocoa beans with improved flavor characteristics.

### [Collaborating with the International Standards for the Assessment of Cocoa Quality and Flavor \(ISCF\)](#)

WCF has been involved in the development of the cocoa quality standards, as part of the for the [International Working Group for the development of ISCF](#). WCF member companies Guittard Chocolate, Barry Callebaut, ECOM, and Ezaki Glico (through their subsidiary TCHO), who are the inspiration for current ACI II flavor and quality work in West Africa, are also close partners of Bioversity in the Cocoa of Excellence Program that has been central in developing cocoa quality standards and protocols.

The FQ labs (Ghana, Côte d’Ivoire and soon Nigeria and Cameroon), are building critical capacity in-country for translating international quality protocols and standards to the farm level, through the national research institutes which host the flavor labs. The establishment of the last two laboratories in 2021 in Cameroon and Nigeria, there is the potential to increase the quality of 70% of global production and the labs are well on the way to verifying these improvements in flavor quality. The labs are already producing cocoa liquor from farmers’ beans, which farmers subsequently taste to appreciate the impact of various good and bad harvest and post-harvest practices on the flavor quality of their beans.

To further promote the transfer of international standards and protocols, WCF looks to support origins to take advantage of the labs to:

- Protect national, historic flavor profiles and markets while identifying new planting material and flavor profiles to support premium and ultra-premium market opportunities.
- Identify the traditional and regional flavor profiles and genetics that have led the region to become leading global suppliers of cocoa.
- Identify drifts and shifts in planting material flavor in recent decades.
- Identify and establish flavor profiles of hybrid planting material currently in distribution.
- Identify and establish flavor profiles of clonal planting material currently under development.

## Impact of COVID-19 on ACI II activities

COVID-19 affected field implementation of ACI II activities, especially between March and August 2020, when strict restrictions on movement were in force in Cameroon, Côte d'Ivoire, Ghana, and Nigeria, leading to significant delays in planned activities for October 2020 to March 2021, the period under review. The impact was most significant for the establishment of VSLAs in Côte d'Ivoire, where 104 members of functioning VSLAs dropped out due to this travel restriction, and very little work could be done on linking established VSLAs to formal financial institutions.

Also, the team could not undertake visits scheduled ahead of the FY2020 semi-annual reports due to COVID-19 related national and international travel restrictions. For the annual report, the team was able to undertake verification in Cameroon and Ghana. Due to WCF travel restrictions on international travel and election and other related security concerns in Côte d'Ivoire and Nigeria, the team was not able to conduct field verification in these countries. This means that not all the information presented in those reports had been verified.

### Mitigation measures

WCF travel restrictions remain in force and ACI II team members (including consultants) continue to follow WCF policy of working from home. Regular remote meetings and conference calls continue as scheduled. However, between February and March 2021, the team undertook critical verification of field activities in Côte d'Ivoire, Ghana, and Nigeria following the strict regimes for testing required for international travel in West and Central Africa. For the most part, implementing partners have made up for the for the COVID-19 related delays experienced in 2020 and consultations are ongoing for contract amendments as needed to meet project objectives.

## Annexes

1. Success Stories
2. Cocoa Target Annual Report
3. ToR for VSLA Business and Income Case Study
4. VSLA Linkage Landscape Analysis
5. WCF Digitization Working Document
6. VSLA Semi-Annual Progress Report
7. Nigeria Flavor Lab Renovation Summary