

Final Evaluation Report

MCC Indonesia Green Prosperity Project

Sustainable Cocoa Partnership Grants Performance Evaluation



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This report was prepared independently by Social Impact, Inc., at the request of MCC.

FINAL EVALUATION REPORT

MCC Indonesia Green Prosperity Project

Sustainable Cocoa Partnership Grants Performance
Evaluation

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LIST OF ACRONYMS

AMARTA	Agribusiness Market and Support Activity (USAID)
BAPPEDA	Regional Planning and Development Agency (<i>Badan Perencanaan Pembangunan Daerah</i>)
BDSP	Business Development Service Provider
BLU	Badan Layanan Umum
BPN	National Land Agency (Badan Pertanahan Nasional/BPN)
BPTP	Regional agricultural research agencies
BumDes	Village Enterprise Agency (Badan Usaha Milik Desa)
CDC	Cocoa Development Center
CPB	Cocoa Pod Borer
CR	Cocoa Revolution
CSA	Climate Smart Agriculture
CSP	Cocoa Sustainability Partnership
DoA	Department of Agriculture
EQ	Evaluation Question
EQSI	Economic, Quality and Sustainability Improvement
ET	Evaluation Team
FFS	Farmer Field School
FGD	Focus Group Discussion
GAP	Good Agricultural Practice
GBP	Good Business Practice
GEP	Good Environmental Practice
GERNAS	National Movement to Increase the Production and Quality of Cacao (<i>Gerakan Nasional Peningkatan Mutu dan Produksi Kakao</i>)
GFP	Good Financial (Management) Practices
GHG	Greenhouse Gas
GOI	Government of Indonesia
GP	Green Prosperity
GP-SCPP	The Green Prosperity Sustainable Cocoa Production Program
ICCRI	Indonesia Coffee and Cocoa Research Institute
KII	Key Informant Interview
KKI	Kalla Kakao Industri
KUR	Credit for Community Business (Kredit Usaha Rakyat)
KUD	Koperasi Unit Desa
LEMS	Community Economic Cooperative (<i>Lembaga Ekonomi Masyarakat Sejahtera</i>)
LLA	Lifescape-Landscape Analysis
M&E	Monitoring and Evaluation
MCA-I	Millennium Challenge Account-Indonesia
MCC	Millennium Challenge Corporation
MIS	Management Information System
MoU	Memorandum of Understanding

MSME	Micro, Small and Medium Enterprises
NGO	Non-Governmental Organization
OFIS	Olam Farmer Information System
PE	Performance Evaluation
PPP	Public and Private Partnerships
PSGIP	Project Social and Gender Integration Plan
RA	Rainforest Alliance
SAN	Sustainable Agriculture Network
SCPP	Sustainable Cocoa Production Program
SECO	Swiss State Secretariat for Economic Affairs
SI	Social Impact
SME	Small and Medium Enterprises
SNI	Indonesian National Cocoa Standards
TOC	Theory of Change
TOT	Training of Trainers
VSD	Vascular-streak dieback disease

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EXECUTIVE SUMMARY

a. Overview of Compact and interventions evaluated

To combat environmental degradation and alleviate rural poverty, the Millennium Challenge Corporation (MCC) entered a five-year, \$600 million USD Compact with the Government of Indonesia (GOI) in April 2013, establishing the Millennium Challenge Account — Indonesia (MCA-I), which aims to reduce poverty through economic growth. The Green Prosperity (GP) Project, the flagship project of the Indonesia MCC Compact with a budget of \$308 million USD, is designed to support the GOI's commitment to a more sustainable, less carbon-intensive future by promoting environmentally sustainable, low-carbon economic growth. The central component of GP is a grant facility, and GP grants fall into specified windows according to technical area. In July 2014, MCC launched a call for proposals to initiate a partnership to improve cocoa productivity and farmers' welfare under grantmaking Window 1. The Window 1 Sustainable Cocoa Partnership Initiative included 3 projects, each leveraging private and donor sector funding. The main objective of the Sustainable Cocoa Partnerships Initiative is to support the development of a sustainable cocoa industry in Indonesia and improve smallholder incomes.

The unique challenges and opportunities within the Indonesian cocoa industry reflect and respond to the priorities and twin goals of the MCA-I GP Project of poverty reduction and reduced greenhouse gas (GHG) emissions. The Indonesian cocoa industry is a source of livelihood for 1.6 million smallholder farmers cultivating an area of 1.7 million hectares,¹ and the cocoa sector currently has opportunities for growth and expansion. However, it has been noted that cocoa export and cocoa productivity rates are expected to decline in coming years, as cocoa production has been marred by a heavy pest and disease burden, weather related conditions, and the introduction of other cash crops.² There is opportunity to increase productivity through replacing and improving genetic material, intensification, and intercropping, which can lead to better incomes and reduced poverty for farmers. The application of good environmental practices (GEP) such as appropriate fertilizer dosing, organic soil enrichment processes, and resisting the conversion of forest land to focus instead on intensification of existing plots can ensure that improvements in productivity can also contribute to reduced GHG emissions. Moreover, numerous international cocoa buyers are willing to invest in supporting the livelihoods of cocoa farmers in the interests of obtaining greater quality and quantity of cocoa. Such investment includes certification and traceability schemes, whereby farmers are paid a premium to carry out good agricultural, environmental, and social practices in producing their cocoa.

Social Impact was contracted by MCC to conduct a mid-term performance evaluation (PE) of the three Cocoa sector grants under Window 1 to identify the project results (outputs and outcomes) and assess program implementation to date. This will enable MCC and MCA-I to capture lessons learned for future interventions in the sector and inform future cocoa grant project design or similar value chain design.

¹ Indonesia Directorate General of Estate Crops (2014). Tree crop estate statistics 2013–2015, Cocoa.

² Indonesia Cocoa Association and Indonesian Coffee and Cocoa Research Institute.

Project Information

The **GP-Sustainable Cocoa Production Program (GP-SCPP)** is implemented by Swisscontact and operates in South Sulawesi, Southeast Sulawesi, West Sulawesi, East Nusa Tenggara, and West Sumatra. As a large public-private partnership (PPP), the program works with various private sector partners and the GOI to improve the productivity and profitability of cocoa farming in Indonesia. GP-SCPP focuses on farmers' delivery of agro-inputs, planting material, and knowledge in environmentally friendly cocoa farming, improved access to capital services and products, fostering enterprise development, and establishment of a platform for policy dialogue and information exchange in the sector. GP-SCPP aims to strengthen the skills and knowledge of 2,000 farmer groups consisting of 58,000 cocoa farmers and promotes certified cocoa as a business model. The project is in effect from April 1, 2015, to March 30, 2018, and has a budget of \$23 million USD.

Cocoa Revolution (CR) is implemented by Rainforest Alliance (RA) and operates in two districts, North Kolaka of Southeast Sulawesi and North Luwu of South Sulawesi. CR focuses on supporting the development of high-yielding, climate-smart cocoa farms by providing training and other support for 8,000 smallholder cocoa farmers. CR is a new collaboration between the private firm PT Olam Indonesia and the sustainability standard agency, RA, in response to the growing demand of sustainable, certified cocoa from the global market. The project indirectly has commercial support from a major buyer of sustainable cocoa, Blommer Chocolate Company. The Cocoa Revolution project specifically focuses on optimizing sustainable yields, improving quality, providing access to the domestic and international market, introducing state-of-the-art climate-smart agriculture, and contributing to climate change mitigation. The project is in effect from July 1, 2015, to March 31, 2018, and has a budget of \$8.5 million USD, with 49% of the cost supported by Olam Indonesian and GrowCocoa.

Economic, Quality, and Sustainability Improvement (EQSI) is implemented by a consortium led by Yayasan Kalla and including PT. Kalla Kakao Industri (Kalla Kakao) and Lembaga Ekonomi Masyarakat Sejahtera (LEMS). EQSI operates in Southeast Sulawesi and aims to improve farmer livelihoods for 2,085 farmers and make cocoa farming sustainable by providing support for cocoa production, post-harvesting, marketing, and reforestation. EQSI aims to improve sustainable agricultural practices among farmers through training on-farm and natural resource management, improving quality and value through cocoa fermentation methods, encouraging reforestation of degraded lands, and promoting cocoa agroforestry systems. The EQSI Project links farmers with a new market chain by building farmers' capacity in fermenting beans in order to produce a high quality bean. To improve natural resource management and more specifically to sequester carbon, the project aims to reforest degraded land, enhance biodiversity, and promote carbon storage. The project is in effect from December 18, 2015, to March 31, 2018, and has a budget of \$4 million USD.

Geographic Scope

The GP Project identified and selected 13 provinces that were eligible for the GP Facility grants. Additionally, 24 districts within these provinces were identified by MCA-I as having favorable project development characteristics for the cocoa partnership grants. As the major cocoa growing region in Indonesia, the main geographic focus of the three cocoa grants is in Sulawesi. GP-SCPP is the largest of

the three grants, not only in financial size but also in geographic diversity, and it overlaps with Cocoa Revolution in South Sulawesi.

b. Evaluation Questions

The PE was guided by the following illustrative Evaluation Questions (EQs), which included specific areas of inquiry to explore in detail:

Table 1: Evaluation questions

	Evaluation Question	Evaluation Areas of Inquiry
1	<u>Efficacy and Training Approaches</u> To what extent have the GP cocoa grants' (Cocoa Revolution, GP-SCPP, and EQSI) training approaches proven successful in improving farmers' knowledge, attitudes, and practice of good agricultural practices (GAP)/GEP?	Grantee training curriculum and approaches, farmer adoption of training, enabling, or constraining factors to efficacy
2	<u>Validation of the Theory of Change</u> How has each grant progressed in achieving its short- and medium-term outcomes (phase 1) and long-term outcomes (phase 2)?	Changes to management practices, product quality, access to markets and knowledge, verification of progress, project monitoring
3	<u>Sustainability</u> What evidence is there that results or outcomes of the GP cocoa grants will be further scaled and sustainable, and what results appear to be less sustainable? Why?	Exit strategies, key actors to ensure sustainability, factors enabling continued success
4	<u>Lessons Learned</u> What aspects of the GP cocoa grant approaches have proven to be most relevant in meeting the needs of the Indonesian cocoa sector?	Feedback mechanisms, geographic considerations, monitoring and evaluation (M&E) practices, application of lessons to other sectors

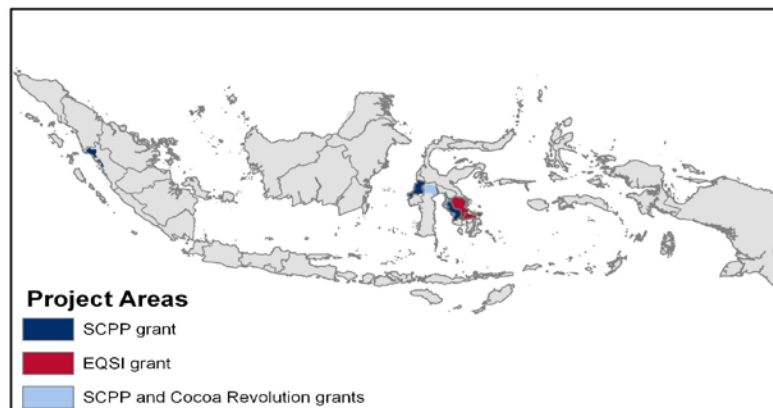
c. Methodology

The evaluation team (ET) used a qualitative pre/post methodology collecting primary data from key informant interviews (KIIs), focus group discussions (FGDs), and direct observations supported by secondary document review and a mini-survey. Qualitative data was coded and triangulated with quantitative data received from grantee reporting and from the mini-survey results to identify trends. The evaluation includes two phases of data collection: Phase 1, prior to the completion of project activities, will identify immediately realized short- and medium-term outputs and outcomes and identify lessons learned in each grant as the projects come into their last few months of implementation (ending March 2018). The proposed Phase 2 will occur two years after Phase 1 data collection in 2019 and will explore long-term outcomes such as reduction in greenhouse gas emissions and improved livelihoods through income and knowledge increases.

Sampling

The ET sampled purposively at the province and district levels, targeting major cocoa producing regions with many participating farmers. The resulting sample includes most or all districts where CR and EQSI are implemented and four of ten where GP-SCPP is implemented, all either located in Sulawesi or Sumatra.

Figure 1: Cocoa grant geographic coverage to be explored under PE



At the respondent level, KIIs were selected purposively while FGD, direct observation, and mini-survey participants were selected randomly. Table 2 below summarizes the final sample by grant and data collection tool, disaggregated by sex. Farmer participants in FGDs were selected randomly from active farmer lists provided by grantees. KII participants were selected purposively based on comprehensive contact lists and input received from grantees and from MCC and MCA-I regarding appropriateness and level of project involvement. Buying stations and fermentation centers selected for direct observation were selected purposively, as not every village visited had a buying station or fermentation center.

Table 2: Data collection sources, disaggregated by sex

Total Respondents	GP-SCPP			CR			EQSI			Total
	#	m	f	#	m	f	#	m	f	
KIIs	38	32	18	13	10	3	14	16	1	65
FGDs	8	44	43	4	26	10	4	27	15	16
Direct Observation	12	9	3	4	4	–	4	3	1	20
Mini-survey	87	52	35	19	12	7	42	27	15	148

Data Sources

The ET utilized a document review, KIIs, FGDs, direct observation of buying stations, fermentation centers, and farms, and a mini-survey to collect program feedback from staff and beneficiaries. The **document review** included project proposals and quarterly reports as well as other reports on specific aspects of implementation. The ET also conducted a literature review on previous development in the cocoa sector in Indonesia. The individuals selected for KIIs include those working in key positions for project stakeholders including project staff (management and technical staff), government (Bappeda and Department of Agriculture representatives), private sector partners, buyers, and local community leaders.

FGDs were held with farmers participating in training activities under each grant to collect information on perceptions of training, approaches, and challenges with cocoa farming. A **self-administered mini-survey** was conducted with FGD participants following the group discussions to capture additional quantitative data on agricultural or environmental practices, cocoa yield, and income. Farms selected for **direct observation** were identified by project staff from among the FGD participants, based on feasibility and proximity to the FGD site. Table 2 above shows the total number of respondents in each type of data

collection activity for each grantee, disaggregated by male and female participants, and the total number of respondents.

Data limitations

There were several challenges to data collection. The ET was constrained by the time and budget available for data collection, limiting the number of sites and beneficiaries that could be sampled and therefore the representativeness of sampled beneficiaries for GP-SCPP in particular. Our findings are thus more relevant to the areas and beneficiary groups that we sampled and less relevant to those we did not sample. There are **confounding factors** in assessing the efficacy of training. The ET based information gathering on assessments of the curriculum, asking farmers and other stakeholders about their views of the training and looking at project outputs. However, we cannot necessarily attribute desired outputs to the programs, as the ET was informed of multiple other factors affecting farmer yields or uptake of training methods. There is the possibility for both **recall bias** and **positive response bias** when relying on self-reported data from farmers, as farmers must rely on their memory of events in the past and also have a tendency to over-report positive behaviors. There is also a potential for **selection bias** to occur by group leaders or field project staff when identifying respondents. At the level of village and farmer group, the ET endeavored to minimize such bias by randomly selecting farmer groups from a list of all active groups and instructing the facilitators to select every other name on the group list. While the ET sought to only select beneficiaries that commenced involvement in the programs under the GP funding window, the level of disaggregation **separating newly trained versus previously trained farmers** within farmer groups was not uniformly monitored under each grantee's M&E systems. The ET selected diverse sites from each grant and used triangulation of data sources to mitigate these potential limitations.

d. Findings

All findings are based on qualitative data self-reported by farmers, project staff, and stakeholders, including perceptions, opinions, and feedback. Where noted, observations and quantitative findings from self-administered mini-survey results and grantee data are included to present a well-rounded picture of grantee progress to date, challenges, and potential for achievement of long-term outcomes.

Evaluation Question 1: To what extent have the GP cocoa grants' (Cocoa Revolution, GP-SCPP, and EQSI) training approaches proven successful in improving farmers' knowledge, attitudes, and practice of GAP/GEP?

The quantitative and qualitative evidence showed that there were many aspects of the training that farmers grasped, appreciated, and adopted, but there were also constraints that limited efficacy. Training approaches were not deemed to be new, and course content was aligned with past trainings from different donors.

The **training content** across the grants was quite similar and considered best practice, built on research and experience on developing sustainable intensification (focus on increasing production per unit of inputs like land, seedlings, fertilizer, equipment) through previous regional projects, and emphasizing quality standards. All three of the grants covered the basic GAP, GEP, good financial management practices (GFP), and cocoa farming as a business. However, there were some unique aspects to each of the grantees' training curricula, reflecting their individual priorities. Rather than focusing on the *Standard Nasional Indonesia (SNI)* guidelines for quality, CR covered certification using Sustainable Agriculture Network (SAN) Standard for Certification (revised and launched in 2016) and the Climate Smart

Agriculture (CSA) approach to reorienting agricultural production in light of climate change concerns. GP-SCPP covered third party certification (under the Internal Management System of UTZ audit and quality standards), Good Nutritional Practices (GNP) and Good Business Practices; and EQSI covered fermentation and silviculture for critical land restoration. Due to constraints in implementation timelines, CR and EQSI weren't able to fully initiate these innovative approaches.

The grantees' **training approaches were similar** in their use of adult education and hands-on agriculture training involving best-practice demonstration plots. Master trainers employed by the grantees provided training-of-trainers (TOT) to field facilitators, who in turn delivered on-farm training to groups of farmers. **Beneficiary selection** for grantee training was not standardized. Existing farmer groups were most commonly how farmers become selected for and engaged in the GP grants. Farmer selection did include women and vulnerable farmers as priorities. However, while grantees were meeting and exceeding targets of female farmer inclusion in training, they fell short of meeting targets for inclusion of poor farmers or could not disaggregate farmers by income level. **Female farmers** were specifically targeted for GNP (GP-SCPP program) as family care givers and GFP (all grants) as family finance managers. Female participation in trainings varied from region to region and often women attended when their husbands were unable to. CR is the only grantee exceeding female training targets for GAP/CSA and GP-SCPP has exceeded targets for female TOT in GAP, GEP and GFP. Despite each grantees requirement to adhere to a Project Social and Gender Integration Plan (PSGIP) under MCA-I, grantees tended to focus only on meeting gender targets rather than implementing a comprehensive strategy of gender empowerment.

For some farmers, the content and concepts discussed were a **repetition of training** they had received before from other sources. Training fatigue affected some GP communities that overlapped with other projects and had experienced other cocoa farming interventions—this meant that while **farmers and community leaders thought that training was useful and applicable to their cocoa farming**, farmers **could not remember** which entities had led a training or the specifics of what that training covered because they had received many trainings from multiple sources. Others did not have adequate time following training to see any progress, or could not attribute any farm changes directly to the training.

According to the findings of the mini-survey, there is not a consistent pattern **of adoption of training** through improved or changed practices after the training; nevertheless, farmers under all the grants showed **several areas where improvements or changes were noted after receiving training**. Farmers reported that after the training, they increased practicing **sanitation**, and more farmers **replaced old stock with seedlings**. For all the grants, more farmers reported **producing compost and biopesticide** after participating in training. Farmers also reported limiting their **pesticide use** owing to increased awareness of the damage it does to their health and the environment and can distinguish between different pesticides. Farm observation did illustrate the prevalence of intercropping and improved sanitation; however, there was not a noticeable increase in the number of farmers who stated that they planted shade trees or practiced intercropping after participating in the training. Farmers in FGDs noted that they had improved in the pruning and sanitation of their farms, **managing waste** properly, **side and top grafting**, **terracing to prevent erosion**, **making compost and using fertilizer**, and **managing pests and disease**.

Several **challenges to adoption** were revealed by the PE. Farmers strongly appreciated the coaching and mentoring provided through the grants, delivered by field facilitators and lead farmers. However, respondents from all grantees stated they **needed more coaching and mentoring** support than was available from the grantees. KIIs with GP-SCPP and CR project staff highlighted that staff are burdened with data collection, and that there is an inadequate number of facilitators and not enough time for effective follow-up. Farmers preferred to see **evidence of the efficacy** of the measures promoted through the training before committing to adopting a practice, but it sometimes takes several years to yield results from the measures taken. The biggest factors affecting adoption of good agricultural practices throughout the projects, but especially in the last year, were the difficult circumstances in which farmers found themselves because of **weather in 2016 and particularly low prices in 2016 and 2017**. Farmers and project staff alike emphasized that they were significantly affected by the unseasonal, extreme bouts of both excessive rain and drought, resulting in flooding, increased pests and diseases, and trees failing to bear fruit. The low international market price of cocoa further demotivated farmers from keeping up their cocoa practices.

Evaluation Question 2: Validation of the theories of change (TOCs)—How has each grant progressed in achieving short and medium outcomes, and what is the likelihood of achieving long term outcomes?

Specific Outcomes

*The **assumptions of the GP TOC** are that training, establishment of nurseries, support to farmer groups, certification, and access to agricultural inputs will lead to improved farming practices and product quality, greater yields and income, more sustainable land use practices, and access to markets. The major focus of intensification across the theory of change for the GP Cocoa portfolio (using the ‘chainsaw theory’) as well as for individual grantees stems from the belief that utilization of high quality inputs will increase agricultural production and increase farm efficiency, limiting farmer’s needs to expand or encroach on new land and thus reduce deforestation.*

- *The **GP-SCPP TOC** focuses on training, creating sustainable access to agro-inputs, planting material, knowledge, and financial services, collaborating with international cocoa companies to support them in investing in smallholder producers, and fostering local input markets and extension systems. GP-SCPP achieved solid progress against training targets and good outcomes in leveraging investment by international cocoa companies. However, at the time of the evaluation, there were still challenges to creating sustainable input markets and extension services.*
- *The **CR TOC** focuses on farmer field schools (FFSs), technical and management innovations such as Climate Smart Agriculture (CSA) and incentive systems, a specific market chain with an identified buyer (Blommer, GrowCocoa), and developing the CSA brand. Cocoa Revolution achieved good outcomes in developing and demonstrating innovations (local fertilizer, solar dryers, CSA techniques), but there was a short timeframe to achieve uptake and for Olam to obtain sufficient product to facilitate ongoing investments in the innovations.*
- *The **EQSI TOC** focuses on training/FFSs, tree planting, land restoration, timber harvesting on marginal land, and a fermented market chain with a premium European buyer. EQSI experienced delays to start-up due to a disagreement with MCA-I about the program approach. While they achieved some outcomes in capacity building for farmers and tree planting, the fermented market chain did not proceed because of technical problems at the processing plant.*

Yields and income: Data from baseline and postline studies conducted by grantees show that **farmers' yields seemed to increase during both the GP-SCPP and CR programs**, although the GP-SCPP data was estimated, self-reported from farmers and CR used a measure to count cocoa pods, which is only a forecasting measure. EQSI data on yields was not yet available at the time of the evaluation. Data from baseline and postline studies conducted by GP-SCPP also showed farmers reported an increased income, but not due specifically to cocoa farming; CR and EQSI data on income was not yet available at the time of the evaluation. While over 59% of the farmers responding to the mini-survey from CR and GP-SCPP reported that their incomes from cocoa have increased during the project, only 12% of EQSI farmers who responded felt that their incomes have increased. FGD respondents varied with limited amounts of farmers feeling their income from cocoa has increased, and for all grantees, farmers who did not experience an income increase attributed this to **declining price and yields, regardless of training**. Farmer FGDs highlighted that to increase their incomes, many households had turned to mixed crop systems and were supplementing their incomes from cocoa with incomes from other crops to have a more regular harvest and payout. Farmers could not attribute changes in either income or yield to participation in the GP trainings.

Financial management and access to financial services: Mini-survey data shows a **modest increase in farmers reporting that they recorded costs and income** more frequently after the training for GP-SCPP (12%) and CR (10%), with a larger increase for EQSI participants (40%). Farmers mentioned illiteracy as a reason why they did not start recording costs and income after training but also that they did not see the necessity of using logs instead of their memory. FGDs with farmers showed that **farmers have various avenues to access financial services** including donor programs, loan sharks, traders, Gapoktan (farmer groups), subsidized credit from the Government (KUR), and the village enterprise agency (BumDes) to address the cashflow challenges associated with farming. However, **there are impediments to farmers accessing financial services**, such as farmers' customary land titles and reluctance to borrow due to uncertain incomes and inevitable repayment, as well as the tendency of banks to discredit farmers.

GP-SCPP has implemented several **pilots relating to access to finance** that are due to be scaled up. GP-SCPP initiatives relating to linking farmers with financial services include a savings pilot with Bank Rakyat Indonesia, an access to finance pilot, partnerships between banks and farmer organizations, utilizing cocoa traders as branchless banking agents, identifying micro-insurance products for farmers, and providing training on the cocoa sector to local financial institutions and other lenders. Investment in savings and credit schemes for farmers is paying off: for example, initiating an Access to Financing pilot to open bank accounts increased the percentage of cocoa farmers with a formal savings account by 40 percent (from 30% to 70%). An account can increase a farmer's ability to afford fertilizer and other inputs, but doesn't necessarily mean that farmers save more (an outcome that can be explored in Phase 2).

Value chain integration: The ET found that while GP-SCPP and CR have proceeded moderately well in certifying farmers and encouraging them to increase their sales to processing companies, **farmers met during the PE sometimes still sold their cocoa to local traders even when they were certified**, mainly for reasons of convenience, accessibility, and an inability to produce high quality beans. According to mini-survey data, farmers in all three grants were selling considerably more to local traders than to processing companies before the training and increased the amount they were selling to processing companies after

participating in the training. However, farmers reported that they still sold more to local traders after the training, with the exception of CR farmers. The location of buying stations, time taken for quality assessment, and opening hours were reasons given not to sell directly to processing companies. Considering the finding that many certified farmers are still selling to local traders, it was not surprising that the ET also found that companies were struggling to obtain sufficient levels of supply, generating competition between companies for farmers and even double certification.

Product quality: The PE did not find strong results around the efficacy of efforts by the grantees to improve **post-harvest practices**. There are two main indicators for measuring product quality: sorting beans and length of time spent drying cocoa. Mini-survey data showed that the number of farmers reporting sorting beans has remained low across the three grants despite increasing after the training. Farmers reported spending between one and five days drying cocoa with minimal difference in drying time before and after training. Additionally, **solar dryers** were not utilized by responding farmers, who saw their utility but stated that the necessary materials to build them locally were unavailable or too costly. It is notable that this finding is similar to the findings of the AMARTA project, where solar dryers were trialed but failed to achieve farmer uptake.³

While the Central Government (Directorate General of Plantation Crops at the Ministry of Agriculture) has stipulated that all Indonesian cocoa should be **fermented** in order to give farmers the opportunity to obtain a higher price (fermented cocoa fetches a higher price than unfermented cocoa on the world market), **currently there is still no market for fermented cocoa** in Indonesia, as processors relying on fermented cocoa prefer to ferment it themselves (e.g., Mars) or import for processing (e.g., Cargill). Among mini-survey respondents, farmers under CR and GP-SCPP reported that their cocoa fermenting increased marginally, even though these grantees were not providing capacity building through direct training on fermentation in their programs. Still, the number of EQSI farmers reporting they fermented decreased by five percent after training. Several attendees of the EQSI FGDs included farmers who were the intended beneficiaries of fermentation training but who had not yet received any training.

Access to land: The GP theory of change includes considerations for reduction of reforested land and improved land use as medium-term outcomes, but access to land is not a specified outcome in any of the individual grantees' TOCs or in the overarching GP Cocoa TOC. While all grantees have identified land *access* as problematic owing to **customary land ownership systems** and **lack of formal land certification**, it is not a measured outcome in any of the individual grantees' TOCs. However, encouraging correct *land use* is noted in the TOC of all grantees, the GP Facility and the GP Cocoa TOC. GP-SCPP is the only project that has started initiatives to engage stakeholders in facilitating farmers to register their land, and the project is currently in the process of identifying farmers to apply for certification.

Supplies and inputs: The grants all focused on the twin goals of enhancing farmers' **access to the inputs** they needed and reducing the harm from chemicals through safe handling, correct dosing, and combining with organic approaches as learned through GAP/GEP training, which would improve productivity and quality. The ET did not find consistent patterns of change in the use of fertilizer or pesticides, with

³ The Agribusiness and Market Support Activity Final Evaluation (June 2011).

increases for some grants and decreases for others. All grants decreased in the use of herbicide, which was discouraged under GEP training. It is also notable that the use of natural inputs is lower than the use of chemicals, but they increased in all cases except for EQSI respondents' purchase of organic fertilizer. KIIs and FGDs revealed that despite the grantees' support, **accessibility of inputs like fertilizer, pesticide, and planting materials is troublesome** for farmers, owing to price and availability. The government supplies a limited amount of fertilizer at a subsidized price, though this fertilizer is designed for food crops. At Mars CDC, specialized fertilizer is being provided that is expensive per unit, but, if farmers use it according to the recommended dose, it can be cheaper overall. CR's (Olam) location-specific fertilizer is being distributed to local outlets in Luwu and North Luwu on a limited scale. The limits to accessibility of inputs may threaten the progress toward the TOC and focus on intensification under the 'chainsaw theory.'

Mini-survey data shows an increase in **rehabilitation** activities over the duration of the grants, including side grafting and top grafting of unproductive trees and replanting for both GP-SCPP and CR after the training. However, EQSI respondents reduced side grafting activity and only had a small increase in replanting. The grantees established **nurseries** to facilitate seedling growth and distribution, for both cocoa seedlings and shade trees. Nevertheless, respondents for all grantees stated that they were **not able to access seedlings in sufficient supply**. Some farmers said that seedlings supplied by the grantees had died or were incompatible with the soil in specific regions. District Governments are distributing seedlings to farmers, not widely but enough to have the effect of dampening demand for fledgling commercial seedling providers. Government regulations requiring cocoa seedlings to be certified (including root stock and budwood) is restricting availability of planting material for farmers.

Greenhouse gas emission reduction: A separate contractor has been working on a model to measure GHG emissions under these grants, and PE data was also compared with their findings. Key areas targeted for informing potential GHG reduction are fertilizer use, number of hectares managed using good agricultural/environmental practices, and number of trees planted (cocoa tree seedlings and shade tree seedlings), as well as farmers non-encroaching into forest land. However, grantees are not provided with a standardized set of GHG reduction indicators to track throughout project implementation. At this stage, **the progress toward GHG emissions reductions is inconclusive** for all grantees because grantees are not actively collecting this data throughout project monitoring. Data related to long-term outcomes toward reducing GHG are likely to be gathered after the project ends (anticipated for Phase 2).

Challenges or limitations in verification of monitoring data: In measuring progress on outcomes, the ET sought to consult and validate data from each grantee's M&E system. All grantees noted **challenges with M&E** including staff capacity, data reliability, system bugs, and unstable internet or telecommunications challenges in rural areas. Overall, there was a lack of consistency and standardization in the variety of reporting approaches among the grantees, which made it challenging for the ET to validate data sources and track progress, and which affected the grantees' ability to report on certain aspects of progress to date under EQ 2.

EQ 3: Sustainability—What evidence is there that outcomes of the GP cocoa grants will be further scaled and sustainable? Which results will be less sustainable and why?

GP-SCPP was able to develop a program structure with a strong likelihood of enduring beyond the GP Cocoa grants at existing scale, but this was not the case for the other two grants. The difference between GP-SCPP and the other two grants was that GP-SCPP was built out of a preexisting program that was scaled up, whereas the other two programs began key activities with the GP funding.

Exit strategies and sustainability: Prior to the GP funding, **SCPP** was operating in 13 districts. Swisscontact used the funding to expand implementation to 50 districts. It is now likely that GP-SCPP will be able to maintain its current scope of implementation with funds from consortium partners and SECO at least until 2020. During the PE, GP-SCPP consortium partner KIIs stated that Mars, Cargill, Mondelēz, and ECOM may be willing to fund Swisscontact to train farmers. Potentially, then, GP-SCPP could be fully funded by the private sector by 2020. The strategy may depend on whether companies are successful in achieving their goal of increasing cocoa supply.

Regarding the exit strategy of the **CR** program, qualitative findings revealed that Olam does not have plans to fund incentives or field facilitators after the end of the MCC grant. There is a memorandum of understanding (MoU) with Blommer for a GrowCocoa certified market chain in place until 2020; however, to date, Olam has had challenges in obtaining sufficient cocoa from farmers to fulfil the contract.

For **EQSI**, lead farmers may continue to provide mentoring to neighboring farmers, but there are risks associated with this approach, as their enthusiasm may wane without incentives. The EQSI theory of change included fermenting cocoa for sale to a guaranteed buyer, Kalla Kakao Industri (KKI), who agreed to pay a premium for fermented cocoa. However, KKI had technical difficulties with the equipment at its factory and was not able to open, so there was no buyer for the fermented cocoa at the time of data collection, calling into question the plan for sustainability.

Interviews with grantee management staff and buying companies revealed that the main system that will enable continued success for farmer and smallholders must be built on the **commitment of buying companies to invest in improvements in productivity of smallholders**. Sustainability certification has this potential, with audits providing an opportunity for coaching and mentoring by field agents. Public sector and donor funds can also support training, coaching, mentoring, and inputs supplies for farmers, but their scope is always limited in terms of the number of farmers they can support. Moreover, the ongoing interest by companies in investing in smallholders will no doubt depend on the results (quality and quantity of cocoa) over time.

Global market trends affect sustainability in Indonesia to the extent price changes affect farmer income. The price of cocoa is unstable compared to other commodities, and over the last year, the cocoa price has dropped by over 50 percent, according to the International Cocoa Organization, considerably affecting farmer commitment to cocoa farming.

Critical actors: There are several actors in the sector who are critical for sustainability. The **government** produces regulations and services that hopefully can support industry development. Cocoa buying

companies and other stakeholders have signed up to **the Cocoa Sustainability Partnership (CSP) 2020 Roadmap Blueprint**, which provides the basis for stakeholders to move forward in a coherent manner as a sector. **Cooperatives** have the potential to generate income by providing an integrated range of services, but so far management problems have dampened success. **Local cocoa sector enterprises** such as seedling sellers are crucial to the industry, but currently, many are struggling. **Cocoa buyer companies** such as Barry Callebaut, Nestlé, Mars Inc., Mondelēz, ECOM, Cargill, and Olam are committed to investing in sustainability, which is an excellent achievement for the sector. However, in the next few years, these companies will need to see results from their investment (increased quality and quantity of cocoa) in order to continue on this pathway.

EQ 4: Lessons Learned—What aspects of the cocoa grants have proven to be most relevant in meeting the needs of the Indonesian cocoa sector?

There are several important lessons learned that have been generated through implementation of the CP Cocoa Grants:

- Weather extremes and market (price) conditions significantly affect project results, and mitigation strategies must be considered.
- Certification of farmers does not automatically mean they will sell all their cocoa to the processing company that certified them. Local traders remain an option for farmers to sell their cocoa.
- Agricultural development projects that seek changes in behavioral outcomes have higher chances of success with more time. Short timeframes (three to four years or less) can lead to “chasing targets”, considerable time spent on startup and closeout, and minimal time for farmers to observe positive effects from behavior change. Likewise, projects must allow for time for seedling maturation and side or top-grafted tree growth to accurately determine tree planting successes and cocoa pod fruit production over time (not pod count), to determine actual yield improvements. KILs mentioned that an appropriate timeframe for agricultural development projects of this nature is at least five years.
- Projects must coordinate with each other and with the government not to overlap interventions in the same regions and to ensure collaboration with other districts. This helps to avoid double counting beneficiaries, mismanagement of distribution of inputs, and training fatigue for beneficiaries.
- PPPs work well when the co-funding occurs in collaboration with a preexisting program (such as with GP-SCPP) and the public funding provides an opportunity to expand. Starting a program from scratch (such as with CR and EQSI) is more challenging.
- Program designers need to ensure they are learning from previous interventions. Some innovations that failed to achieve take-up (fermentation and solar dryers) had already been tried on previous interventions with the same results.

e. Policy Considerations/Future Analysis

The findings of the PE show that the cocoa sector in Indonesia has designed its capacity building and support efforts around expanding production and improving quality, but it may need to reorient itself to achieving resilience in unstable climactic and market conditions. While some success in adoption of GAP has occurred among farmers leading to improved productivity, the overall picture reveals steadily declining levels of production in the context of unpredictable, poor weather. Refocusing efforts around resilience would entail more emphasis on genetic research to strengthen cocoa plants' resistance to the effects of weather extremes and understanding and strengthening farmers' risk management systems through farm diversification.

There is a need for partners in the sector to continue to work on identifying a successful model for extension/coaching and mentoring services for farmers. Several models were trialed in the cocoa sector, including cooperatives, certification with annual audits, and lead farmers, but no perfect model has been achieved. Further analysis in this area is needed.

There is a need for a more strategic and coordinated approach among donors and the GoI to develop input markets. Farmers lack access to affordable, effective fertilizer; subsidized fertilizer is limited and not well suited to cocoa, while development of cocoa-specific fertilizer is still in early stages. A strategy is needed to increase the availability of cocoa-specific fertilizer and suitable, affordable mixes and doses for different soil types and conditions. Quality seedlings are also in short supply, and there are opposing movements in the supply of seedlings working at cross purposes (the government providing a limited number of free seedlings and GP-SCPP supporting small businesses selling seedlings, who must compete with a free supply). The mainstay focus for sector stakeholders should be on supporting flourishing commercial input markets to develop affordable supplies.

More analysis may also be needed regarding certification systems for producing and distributing genetic material. The regulation requiring that seedlings be certified and sold by licensed outlets may not be having the effect of improving the quality and quantity of available seedlings. Farmers' ability to share seedlings among themselves increases genetic diversity, which strengthens the ecology of cocoa farms.

Interviews with grantee management staff revealed that improving financial services is essential to counteracting the effect of indebtedness to local traders. Savings and loans schemes in village-level associations are also useful. Ongoing work is needed on the regulatory and policy progress in the finance sector to improve incentives of service providers to engage with rural cocoa smallholders. More work is also needed to facilitate formal certification of rural smallholder landholdings to improve the bankability of cocoa farmers. There is also a need to improve learning in the sector through effective M&E systems, sharing of results, and seeking to learn from the experience of others.

1. INTRODUCTION

The Indonesian cocoa industry is well positioned to contribute to the twin goals of the Millennium Challenge Account — Indonesia (MCA-I) Green Prosperity (GP) Project of poverty reduction and reduced greenhouse gas (GG) emissions. As a source of livelihoods for 1.6 million smallholder farmers cultivating an area of 1.7 million hectares,⁴ the cocoa sector currently has opportunities for growth and expansion. However, national production, productivity, and exports have been on a downward trend and are likely to continue on this pathway (see Table 3).⁵ There is a high concentration of smallholder ownership with more than 90 percent of the cocoa in the main cocoa growing region of Sulawesi produced by smallholders. In the years following expansion of cocoa farms in the 1980s, yields were high owing to high rainfall and newly deforested soil, but by the late 1990s, cocoa plants in Sulawesi were suffering from pests and diseases, resulting in declining quality and yields. Within the year before this performance evaluation (PE) was conducted, the Indonesian Cocoa Association stated that up to 70 percent of trees were “old,” and pests and diseases plague farmers.⁶ Smallholders lack the resources to invest in inputs such as soil enhancement, crop protection, and new planting material. As cocoa farming has become less profitable, many farmers have chosen to cut down their trees and replace them with other crops. Palm oil and rubber are among the crops farmers are choosing to replace their cocoa, as they are perceived to be more lucrative. Beginning in 2009, the Indonesian Government introduced a \$350 million USD program to reverse the decline in cocoa and increase annual yields to 2 million tons per year, but this was seen to be largely unsuccessful.⁷ It is also estimated that more than \$150 million USD⁸ has been invested in the Indonesian cocoa sector in recent years.

Table 3: Key statistics on cocoa production in Indonesia

Year	2010	2011	2012	2013	2014	2015	2016
National Cocoa Production Area (ha) ⁹	1,651,539	1,732,600	1,852,900	1,740,600	1,727,400	1,709,284	1,701,351
Total national production (ICCRI) ('000) ¹⁰	575	435	500	575	400	377	350
Total national export (ICCRI) ('000) ¹¹	280	200	150	—	63.3	39.6	27.5
Average Yield (FAO) (kg/ha) ¹²	511.4	411.1	399.6	414.2	421.7	347.1	386.1

*As reported by Indonesia Coffee and Cocoa Research Institute (ICCRI)

⁴ Indonesia Directorate General of Estate Crops (2014). Tree crop estate statistics 2013–2015, Cocoa.

⁵ Indonesia Cocoa Association and Indonesian Coffee and Cocoa Research Institute.

⁶ Cocoa Bean Production Indonesia to Recover in 2017, Exports Slide. Indonesia Investments (December 17, 2018), found at <https://www.indonesia-investments.com/news/todays-headlines/cocoa-bean-production-indonesia-to-recover-in-2017-exports-slide/item7451?>

⁷ Ibid.

⁸ Pearce, D. (2016), Sustaining cocoa production: impact evaluation of cocoa projects in Indonesia and PNG. ACIAR Impact Assessment Series Report No. 89. Australian Centre for International Agricultural Research: Canberra.

⁹ <http://www.fao.org/faostat/en/?#data/QC>.

¹⁰ Ibid.

¹¹ Ibid.

¹² <http://www.fao.org/faostat/en/?#data/QC>.

The main remedies to address the problems in the cocoa sector are seen to be capacity building for farmers to intensify their approach to farming and support (direct provision, development of input markets and access to finance) to help farmers access inputs and material for replanting. The application of good environmental practices (GEP) such as appropriate fertilizer dosing, organic soil enrichment processes (compost, mulching, and beneficial shade trees), and resisting the temptation to convert forest land and focusing instead on intensification of existing plots can ensure that improvements in productivity can also contribute to reduced GHG emissions. Moreover, several international cocoa buyers are willing to invest in supporting the livelihoods of cocoa farmers in the interests of obtaining greater quality and quantity of cocoa. Such investment includes certification and traceability schemes whereby farmers are paid a premium to carry out good agricultural, environmental, and social practices in producing their cocoa. To address this, the Millennium Challenge Corporation (MCC) has invested in five grants related to improved livelihoods and productivity for cocoa farmers. This evaluation looks critically at three of these grants to identify lessons learned for future interventions in the sector.

Cocoa from the main cocoa growing and production region of Sulawesi is sold for a discount price on the world market because of the low quality and consistency of the beans caused by high levels of pests and diseases. In addition, most cocoa beans produced in Indonesia are unfermented.¹³ Indonesia has a very specific profile in the world market. Most of the West African cocoa is fermented and has higher cocoa butter content and therefore can be sold into higher value markets. Essentially, all the cocoa beans sold into the European Union (EU) for chocolate manufacturing are West African. Indonesian cocoa's primary market is in the United States, where markets do not demand the same level of quality as in the EU. In many cases, U.S. chocolate manufacturers will blend Indonesian non-fermented cocoa with West African fermented cocoa to reach the desired quality.¹⁴ In an attempt to raise the income of smallholders through increased value-add, the Indonesian Government introduced a regulation requiring that Indonesian cocoa be fermented, and in 2010, the Indonesian Government introduced a 15% export tax on raw beans with the purpose of increasing access to value-add revenue. In response, foreign firms including companies such as Barry Callebaut, Mars Inc., and Cargill have built processing facilities in Indonesia. These companies have been importing cocoa to fulfil their processing capacity. However, for several reasons, including a raised Value Added Tax (VAT) imposed by the government in 2015, stricter tests for nation of origin for imported cocoa beans, and declining Indonesian cocoa production, these facilities have been operating at half of their production capacity of approximately 800,000 tons per year.¹⁵ The cocoa buying companies are thus focused on increasing Indonesian production and are collaborating with development partners such as Swisscontact and Rainforest Alliance to invest in smallholders to help them improve their production.

In this context, cocoa companies have signed up for the Cocoa Sustainability Partnership (CSP) 2020 Roadmap together with non-governmental organizations (NGOs), processors/exporters, donors, and

¹³ Saxpol (2014). Op. cit.

¹⁴ Neubert, D. (2011), The Agribusiness and Market Support Activity: Final Evaluation, USAID.

¹⁵ Cocoa bean production in Indonesia to recover in 2017, Exports Slide (December 10, 2016), found at <https://www.indonesia-investments.com/news/todays-headlines/cocoa-bean-production-indonesia-to-recover-in-2017-exports-slide/item7451?searchstring=cocoa>.

sector institutions. The roadmap identifies a strategy for the sector to be viable by 2020 through smallholders doubling their productivity without using more land. It identifies different “business case” scenarios in terms of land, production inputs, and fertilizer use and provides targets and indicators for companies to hold their partners accountable. It also recognizes that the good agricultural practices (GAP) package that has already been developed is adequate though trainers are in short supply. The roadmap contains a focus on training top farmers to adopt the methods, in anticipation that behavior will trickle down to less well-off farmers who are motivated and mentored. It also states that fertilizer and planting materials are key to unlocking higher levels of productivity. For farmers to access higher levels of fertilizer, the question of access to finance will need to be addressed first. New and better varieties of fertilizer need to be fed into the sector at scale to reach the desired double productivity by 2020.¹⁶

Market conditions also affect cocoa farmers’ livelihood prospects. Indonesian farmers receive a high proportion of the world price. A study in 1995 found that cocoa farmers in South Sulawesi received 90 percent of free on-board (FOB) prices, or the price producer organizations receive to bring cocoa to the port of export. For some crops, such as cassava, farmers receive only 18 percent of the FOB price. This is in spite of the fact that there are many middlemen, or *tengkulak*, along the cocoa chain from farm-gate to export.¹⁷ Globally, demand conditions are tight but there have been highs and lows in the cocoa price over the last few years. In 2016 and 2017, the international cocoa price has dropped, owing to an excess in supply in West Africa, but it is expected to recover in 2018.

¹⁶ New Foresight (December 16, 2013), *The 2020 Roadmap to Sustainable Indonesian Cocoa*, found at http://www.newforesight.com/wp-content/uploads/2014/06/CSP-Roadmap-Report_here2.pdf.

¹⁷ Neilson, J. (2007), Global market, farmers and the state: Sustaining profits in the Indonesian cocoa sector. *Bulletin of Indonesian Economic Studies*, Vol. 43, No. 2, pages 227–50.

2. OVERVIEW OF COMPACT AND INTERVENTIONS EVALUATED

To combat environmental degradation and alleviate rural poverty, the Millennium Challenge Corporation (MCC) entered into a five-year, \$600 million USD Compact with the Government of Indonesia (GoI) in April 2013, establishing the Millennium Challenge Account – Indonesia (MCA-I), which aims to reduce poverty through economic growth. The Green Prosperity (GP) Project, the flagship project of the Indonesia MCC Compact with a budget of \$332 million, is designed to support the GoI's commitment to a more sustainable, less carbon-intensive future by promoting environmentally sustainable, low carbon economic growth. The central component of GP is a grant facility, and GP grants fall into specified windows according to technical area. In July 2014, MCC launched a call for proposals to initiate a partnership to improve cocoa productivity and farmers' welfare under grantmaking Window 1. The Window 1 Partnership Grant is made available for projects that leverage private sector or donor funding. The main objective of the Sustainable Cocoa Partnerships initiative is to support the development of a sustainable cocoa industry in Indonesia and improve smallholder incomes, where both smallholders and processors benefit equitably. Sustainable Cocoa Partnership Grants will achieve these objectives by:

- i) leveraging significant private sector resources and access to marketing channels of partners to ensure that Indonesia becomes a long-term sustainable source of cocoa in the global market;
- ii) increasing cocoa production to maintain Indonesia's market position in response to growing demand;
- iii) improving and optimizing smallholder yields that will result in increased incomes;
- iv) standardizing prices to producers that reflect improvements in quality and sustainability; and
- v) contributing, either directly or indirectly, to the reduction of greenhouse gas (GHG) emissions and/or improved carbon sequestration.¹⁸

Under Window 1, three grantees have undertaken activities to improve productivity, inclusion, and quality of cocoa farming in Indonesia since 2015. Two grants supporting the cocoa sector were also awarded under Window 2: Community Based Natural Resource Management. The Window 2 grants are shorter in scope and began activities in 2016, ending at the end of 2017, and work directly with local organizations. This evaluation will focus on the three Window 1 grants because of their larger scope and implementation period, as well as to provide specific information on the partnership models. The grants include:

The **GP-Sustainable Cocoa Production Program (GP-SCPP)** is implemented by Swisscontact. GP-SCPP initially was implemented across 14 districts in South Sulawesi, Southeast Sulawesi, West Sulawesi, and East Nusa Tenggara Provinces, and has since expanded to reach 50 districts and includes West Sumatra. As a large public-private partnership (PPP), the program works together with various private sector partners and the GoI to foster the productivity and the profitability of cocoa farming in Indonesia with a

¹⁸ Swisscontact (2015), Full Partnership Proposal, Green Prosperity—Sustainable Cocoa Production Program.

focus on delivery of professional farmer packages (agro-inputs, planting material, and knowledge), improved access to capital services and products, fostering enterprise development, and establishment of a platform for policy dialogue and information exchange in the sector. GP-SCPP aims to strengthen the skills and knowledge of 2,000 farmer groups—consisting of 58,000 cocoa farmers and also benefitting women and vulnerable groups—in environmentally friendly cocoa farming, improved nutrition practices, and application of prudent financial practices. The program also works with national and local governments, the Cocoa Sustainability Partnership (CSP), and regional cocoa forums to ensure strategic alignment and promoting knowledge management in the sector.

Environmental sustainability is integrated into the GP-SCPP design promoting (i) intensification and diversification rather than expansion into new areas, (ii) compliance with Indonesian and U.S. government regulations regarding the use of appropriate doses of agro-inputs to prevent hazardous overuse, negative environmental impacts, and increased GHGs, (iii) organic soil enrichment processes (compost, mulching, and beneficial shade trees), and (iv) working alongside other programs aimed at promoting the preservation of forest areas and nature reserves. GP-SCPP promotes certified cocoa as a business model that can potentially lead to sustainable project benefits by ensuring that farmers' products are internationally competitive and serve as quality products on the market.

The GP-SCPP approach takes gender into consideration by recognizing (i) social exclusion, (ii) women's participation and leadership, and (iii) women's economic empowerment as key issues pertaining to women and vulnerable groups in the cocoa sector in Indonesia. The programmatic approach to gender inclusion focuses on promoting women in leadership roles in farmer organizations and commercial activities, enabling participation by ethnic minorities, and supporting women-owned cooperatives. This project is in effect from April 1, 2015, to March 30, 2018, with a budget of \$16.3 million USD. Precursor projects include: Peningkatan Ekonomi Kakao Aceh (PEKA, 2008–2012) and GP-SCPP (2012–2015).

Cocoa Revolution (CR), implemented by Rainforest Alliance (RA), focuses on supporting the development of high-yielding climate-smart cocoa farms by providing training and other support for 8,000 cocoa smallholder farmers in two districts, North Kolaka of Southeast Sulawesi and North Luwu of South Sulawesi province. The Cocoa Revolution project is a new collaboration between the private firm PT Olam Indonesia and the sustainability standard agency, RA, in response to the growing demand of sustainable cocoa from the global market. The project indirectly has commercial support from a major buyer of sustainable cocoa, Blommer Chocolate Company, as the firm and Olam Indonesia signed a market partnership agreement under the GrowCocoa program. The Cocoa Revolution project specifically focuses on optimizing sustainable yields, improving quality, providing access to the domestic and international market, introducing state-of-the-art climate-smart agriculture, and contributing to climate change mitigation. Along with supporting livelihoods of the smallholder farmers through technical assistance, the project also aims to strengthen linkages by supporting value-add activities, particularly among the smallholder farmers.

The support for smallholders is an integrated part of an ongoing commercial partnership for economic sustainability. Thus, sustainability is built into the model by providing an incentive payment to farmers for implementation of GAP/GEP and post-harvest practices to motivate practice adoption and lead to

improved performance and reduced poverty and GHG emissions. Like GP-SCPP, cocoa certification is lauded under CR as a means to improve sustainability of farmers' quality outputs and, under RA, is provided at the farm level at no cost, because the costs of the certification audit are covered through an investment by the supply chain. Farmers also benefit from training of trainers in sustainable land management and membership in stakeholder forums to encourage ongoing learning and shared practices.

CR also supports environmental sustainability. The project has sought to develop locally appropriate training materials that will help farmers mitigate and adapt to predicted climate change impacts across their landscape. The farm-level focus will be on the correct use of fertilizers (specifically rich in nitrogen) and best practices for soil management and GPS monitoring of land use and land cover.

The Cocoa Revolution project conducted a gender analysis early in project implementation, and so strategies were put in place to maximize the participation of women in training, include a focus on women-intensive areas of activity such as harvesting and off-farm activities, and promote cocoa farming as a family business by including integrated farming activities such as shading tree business and agro-inputs business. The project is in effect from July 1, 2015, to March 31, 2018.¹⁹ The total cost of the project is \$8.5 million USD, with 49 percent of the cost supported by Olam Indonesian and GrowCocoa.

Economic, Quality, and Sustainability Improvement (EQSI) is implemented by a consortium led by Yayasan Kalla and including PT. Kalla Kakao Industri (Kalla Kakao) and Lembaga Ekonomi Masyarakat Sejahtera (LEMS). The project aims to improve farmer livelihoods for 9,500 farmers in Southeast Sulawesi (7,500 cocoa farmers and 2,500 commercial forestry farmers) and make cocoa farming sustainable by providing support for cocoa production, post-harvesting, marketing, and reforestation. EQSI aims to improve sustainable agricultural practices among farmers through training on improved agriculture practices and natural resource management, cocoa fermentation methods, encouraging reforestation of degraded lands, and promoting cocoa agroforestry systems. EQSI aims to improve cocoa quality and value by encouraging farmers to ferment beans. The EQSI Project links farmers with a new market chain by building farmers' capacity in fermenting beans in order to produce a high-quality bean. To improve natural resource management and more specifically to sequester carbon, the project aims to reforest degraded land of around 7,000 hectares.

By promoting agroforestry, the program enhances biodiversity and promotes carbon storage while concurrently improving cocoa yields and potential income from shade trees. Gender and social inclusion are mainstreamed into the EQSI program by requiring farmer group membership to include women in group activities and group decision-making and including content on gender issues in training materials. EQSI encourages women's participation in training, especially for tree nurseries, agroforestry, and financial literacy.²⁰ The project is in effect from December 18, 2015, to March 31, 2018, with a budget of \$6 million USD.

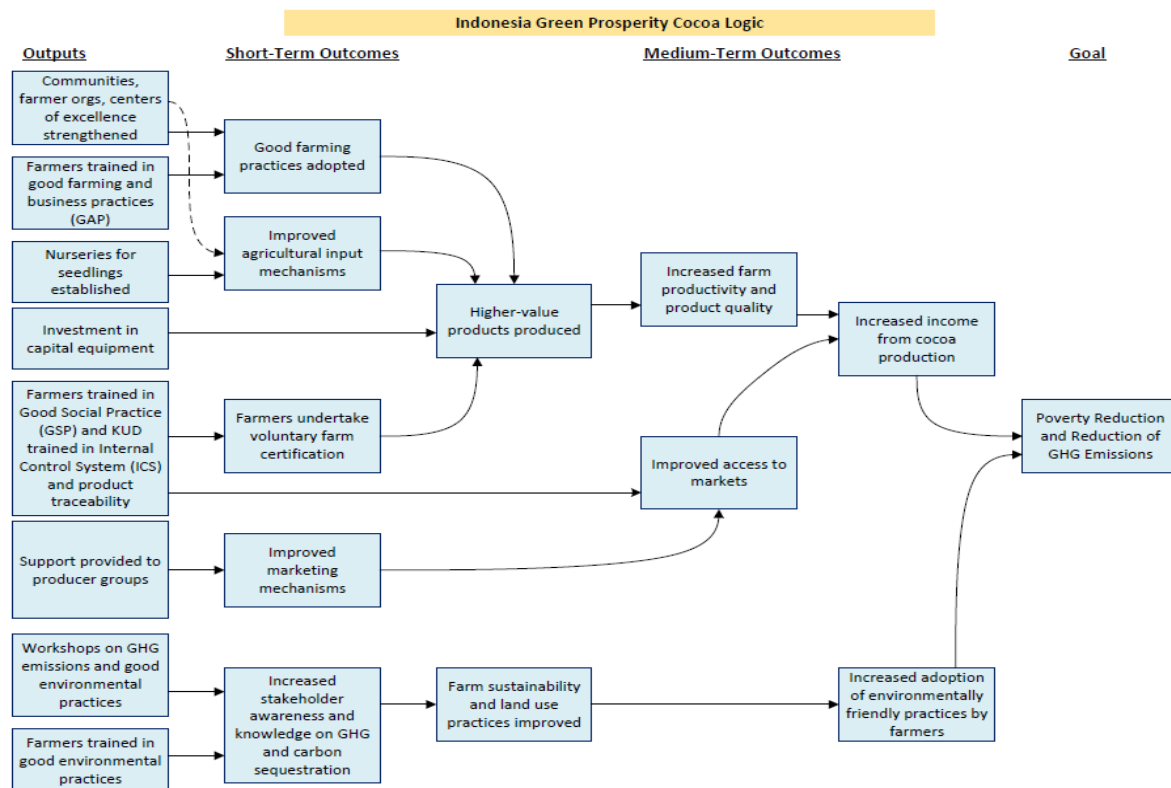
¹⁹ Rainforest Alliance (2015), Partnership Proposal: Partnership to Promote Sustainable Cocoa Industry.

²⁰ Ibid.

2.1 Compact Program Logic

The GP Project aims to promote environmentally sustainable, low carbon economic growth as set forth in the Government of Indonesia's medium- to long-term development plans. The logical framework for the GP grants portfolio presented in Annex 1 defines linkages between GP inputs and the goal of reducing poverty through low carbon economic growth. Specifically, increased productivity is the intended effect of GP financing of activities promoting sustainable agriculture or forestry. The focus on '*intensification*' across the theory of change for the GP Cocoa portfolio as well as for individual grantees stems from the belief that increased agricultural production should focus on high quality inputs (equipment, materials, etc.) to increase farm efficiency, limiting farmer's needs to expand or encroach on new land and thus reduce deforestation. The promotion of sustainable agricultural and forestry practices leads to increased productivity on existing, potentially degraded, land. The confluence of GP activities is thereby expected to reduce greenhouse gas emissions and increase household income of beneficiaries. The cocoa program logic presented in Figure 2 identifies the two expected levels of impact that accrue to communities and the individuals and their families benefiting from training and improved farming practices. Short-term outcomes refer to results that are achievable within the timeframe of the project and within one year after completion of implementation. Medium-term outcomes refer to results that can begin to be measured after year one of implementation and are achievable (or likely to be achieved) one year or more beyond completion. The final goal follows in line with that of the overall GP logic to reduce poverty and GHG emissions.

Figure 2: Indonesia Green Prosperity cocoa logic model



The logical framework models for the individual grants are all similar in structure, with a focus on poverty reduction, reducing GHGs and increasing cocoa production (see Annex 1 for the logic models of the GP program logic and the Window 1 grant logic models). Each grant has a measured focus on initiating training for improved agricultural practices, increasing quality and competitiveness of product, and reforestation of degraded land to increase farmer income and stability and reduce greenhouse gas emissions. GP-SCPP has a focus on private sector partners and a component on nutrition. Cocoa Revolution focuses on improved management and market practices. EQSI focuses on reducing degraded lands and improving hydraulic conditions, fermentation, and providing yeast inoculants for fermentation. The intent to reduce GHG is rooted in farmers' abilities to uptake environmentally smart agricultural practices, including tree planting, responsible compost and fertilizer use, and better utilization of land to prevent deforestation.

Assumptions

Assumptions of the logic models are that cocoa prices and demand remain stable or increase; Indonesian cocoa remains competitive on the international market; increased incomes and income diversification and climate education sufficiently deter farmers from converting forests to cocoa fields despite short-term economic gains; and climatic shock will not occur to impede growth and productivity of newly planted cocoa trees. It is anticipated that farmer training will reduce time spent engaged in less efficient agricultural practices, and trained farmers can better train hired labor and make education decisions on fertilizer types, costs, and outputs.

2.1.2 Link to ERR and Beneficiary Analysis

MCC's model of economic analysis for poverty reduction grants includes an economic rate of return (ERR) analysis and a beneficiary analysis. The ERR analysis is used to inform investment decisions based on estimates of the economic benefits attributable to the proposed MCC-funded activity relative to the social costs. The ERR analysis of the three grants in the cocoa sector shows that the most consistent economic benefit considered by MCC analysis is the increased income for farmers, which is affected by the increase in yield and decreased production costs. This benefit mirrors the short- and medium-term outcomes in the logic models of GP-SCPP, Cocoa Revolution, and EQSI which reflect an overall improvement in livelihoods and uptake of sustainable, environmentally friendly measures.

All three grants' benefit streams are modeled around net farmer revenue over time. Net farmer revenue is measured as the difference between total farmer costs and total farmer revenue. Even with a temporary increase in production costs, the long-term benefit will be increased yields and improved income-earning potential over time. ERRs are generated by MCA-I.

Table 4: 20-year economic rate of return analysis

Grant	20-year ERR (standard benefits)
GP-SCPP	21%
Cocoa Revolution	33%
EQSI	40.63%

*Data received from MCA-I in November 2017

2.1.3 Program Participants

As public private partnerships involving international donors, international and national market intermediaries, international and national cocoa associations, government, individual farmers, and farmer associations, the cocoa grants have stakeholders at international, national, provincial, district, and village levels as detailed in Table 5 below:

Table 5: GP cocoa portfolio stakeholders

Level	Stakeholders		
	GP-SCPP	Cocoa Revolution	EQSI
International	MCC, other donor agencies: Swiss Government, Embassy of the Kingdom of the Netherlands (EKN), the Sustainable Trade Initiative (IDH). Cocoa companies: Barry Callebaut, BT Cocoa, Cargill, Nestle, Mars Inc., Mondelēz, Guitard, World Cocoa Foundation (WCF)	Implementing agency: Rainforest Alliance. Cocoa companies: Bloomer, Olam International	MCC
National	MCA-Indonesia (MCA-I), Ministry of Agriculture, CSP. VECO Indonesia, Indonesia Coffee and Cocoa Research Institute (ICCRI), Cocoa Sustainability Partnership (CSP)	MCA-Indonesia (MCA-I), BAPPENAS, Ministry of Home Affairs, Olam Indonesia, Ministry of the Environment and Forestry, ICCRI, PT Prima Agrotech	Ministry of Agriculture, BAPPENAS, Yayasan Kalla, PT Kalla Kakao, Lembaga Ekonomi Masyarakat Sejahtera (LEMS), MCA-Indonesia (MCA-I)
Province	Provincial development planning board, Department of Agriculture and Estate Crops	Provincial development planning board, Department of Agriculture and Estate Crops	Provincial development planning board, Department of Forestry, Department of Agriculture and Estate Crops
District	District development planning board, District Department of Agriculture and Estate Crops, Government extension services, Department of District Cocoa Clinics/cocoa doctors	District development planning board, District Department of Agriculture and Estate Crops, government extension services	District development planning board, District Department of Agriculture and estate crops, government extension services
Sub-District		Kecamatan officials, cocoa farmer forums	Kecamatan Officials, Agriculture Extension Worker (PPL)
Village	Cocoa producer groups, smallholder cocoa farmers, independent entrepreneurs (cocoa farmers serving as private extension agents)	Head of village, cocoa farmers, community leaders, marginalized and vulnerable groups, women's groups	Head of Village, cocoa farmers, Farmers Groups, Village Secretary, community leaders

Beneficiary selection

Each grant targets beneficiaries similarly, taking into consideration farmers' commitment to cocoa farming, farm size and land ownership, proximity to forest land, and importance of cocoa to household livelihoods. To further the success of the next generation of cocoa farmers, the programs also aim to include young male and female adults as participants. Beneficiary selection is discussed in more detail in section 5.1.2.

2.1.4 Geographic Coverage

The GP Project identified and selected 13 provinces to be eligible for the GP Facility grants. Additionally, 24 districts within these provinces were identified by MCA-Indonesia as having favorable project development characteristics for the cocoa partnership grants. As the major cocoa growing region in Indonesia, the main geographic focus of the three cocoa grants is in Sulawesi. GP-SCPP is the largest of the three grants, not only in financial size but also in geographic diversity. The GP-SCPP grant conducts activities in four districts in East Nusa Tenggara, two districts in Southeast Sulawesi, two districts in South Sulawesi, four districts in West Sulawesi, and two districts in West Sumatra. Cocoa Revolution conducts activities in one district in Southeast Sulawesi and one district in South Sulawesi, where it overlaps activity areas with GP-SCPP. EQSI manages activities in three districts of Southeast Sulawesi.

2.1.5 Implementation Summary

Summary of implementation to date

The following information is based on quarterly reports, monitoring and evaluation (M&E) data, and management information systems (MIS) data provided by both MCC and the grantees. Progress toward these indicators will be explored more fully in the findings section of this evaluation report, including individual grantee progress rates. The full table of reported progress toward key indicators is included in Annex 6.

GP-SCPP

All of the major activities are underway for the GP-SCPP project, and the grantee was working with farmer beneficiaries prior to receiving GP funding. Not including those farmers trained prior to the start of the project, GP-SCPP has reached over half of its targeted farmers trained in GAP (65%) and good nutrition practices (GNP 56%), almost half of its target for farmers trained in good financial practices (GFP 48%), but just 30% of its GEP training targets as of September 2017 (Q9). While it was considerable further along in the training of master trainers (TOT) for GAP at 91.6%, its targets for other TOTs are less than 60%. Additionally, certification progress is lower than expected, currently just over half of the intended target. (52%). GP-SCPP is 67% of the way toward meeting its target for established farmer groups and has exceeded its target for establishment of demonstration plots at 182% of the target (409 total). The project is also making progress in having established 83% of its target nurseries.

Cocoa Revolution

All the major activities are underway for the CR project, with the project meeting 100% of its targets for establishing demonstration plots (establishing 40) and development of soil analysis and fertilizer mix by farmers. To date, CR has reached 71% of its training targets for GAP, 74% of its training targets for GEP, and 98% of its training targets for GFP at the end of June 2017 (Q8), as well as 100% of the intended lead farmers trained on Climate Smart Agriculture. The project has not reported on the number of engaged farmer groups but has achieved three-quarters of the intended target for farmers receiving certification and incentives for both quality and good practices. It has established 79% of its targeted nurseries and is three-quarters of the way toward achieving its targets in seedling distribution and has reached 69 percent of its target for solar dryers.

EQSI

Most of the major activities are underway for the EQSI project, though many have only recently begun in the last quarter. To date, EQSI has reached 55% of its training targets for GAP and 43% of its training targets for GFP with delays in meeting its training target for fermentation, currently at 21% at the end of Q7 (September 2017). The project is close to reaching its target for numbers of active farmer groups and while it has met its target at 100% for the number of demonstration plots (establishing 40) and nurseries (establishing 20) it has reached 50% of its target for established fermentation centers.

3. LITERATURE REVIEW OF THE EVIDENCE

It was estimated that more than \$150 million USD²¹ has been invested in the Indonesian cocoa sector in recent years. There have been some key lessons learned that have been generated through these interventions that are relevant to the current grants being evaluated. Achievements from previous interventions as well as findings from evaluations of these interventions have laid the groundwork for the GP-Cocoa Grant Portfolio interventions.

A. Donor Interventions

The MARS/ Netherlands Ministry of Foreign Affairs **PRIMA project** (2003–2010) provided 40,000 farmers with training in GAP. A key focus of PRIMA was establishing mechanisms through which farmers could access the knowledge and inputs required to sustain a shift from a low-input/low-output approach to a high-input/high-output approach to cocoa farming. The program found that expecting farmer groups to take on a role as knowledge/input providers was unrealistic and that focusing on supporting highly motivated individual farmers and other private sector providers to become profit-oriented service providers was more effective. The program also developed the Mars Cocoa Development Centers (CDCs) where farmers, extension staff, field facilitators, and trainers come to learn about a wide range of activities. CDCs are also important research sites, where scientists conduct clonal trials, test different types of pest management, and explore the best methods of technology transfer.²² CDCs are important stakeholders in GP-SCPP, acting as cocoa service providers offering inputs and technical assistance in the Mars cluster locations.

Like PRIMA, USAID's Sustainable Cocoa Enterprise Solutions for Smallholders (**SUCCESS**) project (2000–2005) worked with 100,000 farmers to increase production by 25% yields by 400 kg per hectare per year, and incomes by an average of \$435 per year per farmer. The project evaluation identified that there is a need to build effective service provision mechanisms that can deliver improved technologies and training to all cocoa producers.²³ It also recognized a need for the creation of farm-level incentives for the

²¹ Pearce, D. (2016), Sustaining cocoa production: impact evaluation of cocoa projects in Indonesia and PNG. ACIAR Impact Assessment Series Report No. 89. Australian Centre for International Agricultural Research: Canberra.

²² Pye-Smith, C. (2011), *COCOA FUTURES: An innovative program of research and training is transforming the lives of cocoa growers in Indonesia and beyond*. ICRAF Trees for Change, no. 9. Nairobi: World Agroforestry Centre.

²³ Farman, B. A. (2005), Final Report: Sustainable Cocoa Enterprise Solutions for Smallholders (SUCCESS) – Alliance, Indonesia.

improvement of cocoa quality. The CR program introduced its incentives system, building on these experiences. The SUCCESS final project evaluation found that there was little adoption of improved post-harvest handling techniques for which capacity building was provided (e.g., solar drying), invariably because there is no difference between prices received by farmers for their beans, so they have no incentive to change their practices.²⁴ Intervention support for post-harvest activities through the GP portfolio builds on knowledge in this area.

The USAID Agribusiness and Market Support Activity (**AMARTA**) project (2006–2009) trained 83,000 farmers in GAP.²⁵ The project increased average yields from 600 kg per hectare to 995 kg per hectare, resulting in \$979.60 USD in average annual marginal gross sales revenue per farmer. The project found that a combination of techniques, including industrial pesticides, pheromone traps, and crop sanitation practices helped to break the lifecycle of the cocoa pod borer (CPB) and noted that bean size can be influenced by plant nutrition, plant genetics, pruning practices, and a wide variety of environmental factors such as water availability, soil chemistry, pests and pathogens, and shading. Because of the project's efforts, exporters reported that AMARTA farmers' bean size increased from 130 beans per 100 grams before the project to 123 beans per 100 grams after the project.²⁶ Technical knowledge regarding improving productivity and pest and disease management from AMARTA has been incorporated into the CR curriculum.

In collaboration with government entities, AMARTA trained farmers in cocoa fermentation techniques and provided fermentation boxes, but the project team found that it was not a worthwhile investment, as many farmers considered the additional work associated with fermentation to be a poor investment, given the low premiums paid for fermented beans (about 10%). The AMARTA project supplied solar dryers, which were well received, but did not see any evidence of farmers adopting the technology independently.

B. Evidence from government intervention

The GoI has attempted to transform Indonesia's position on the world cocoa market as a supplier of low quality discount beans by issuing an Export Tax (PMK No. 67/pmk.011/2010) on raw bean cocoa export in 2010. In response, international and domestic cocoa processors and chocolate manufacturers established cocoa grinding factories in Indonesia. Recent investors include domestic and international manufacturers such as Mars Inc., Barry Callebaut, and Cargill.^{27,28} However, rather than encourage farmers to produce higher quality cocoa, it appears that the tax has resulted in processing facilities now importing beans of higher quality and consistency from Ghana, Ivory Coast, and Papua New Guinea to process in Indonesia.²⁹

²⁴ Ibid.

²⁵ Neubert, D. (2011), The Agribusiness and Market Support Activity: Final Evaluation, USAID.

²⁶ Ibid.

²⁷ Antara News (2013), Agro Asia (2011).

²⁸ Import has been increasing due to the domestic short supply: see <https://finance.detik.com/berita-ekonomi-bisnis/3449257/ri-punya-kebun-luas-tapi-kakao-masih-bergantung-impor>.

²⁹ Ibid.

The GoI has also issued policies to improve the quality of Indonesian cocoa, including Standard Nasional Indonesia (SNI) 01-2323-2002 (revised in 2008/2010) for standardizing fine and bulk cocoa quality and Permentan (Ministry of Agriculture Regulation) No. 67/2014 requiring all fine and bulk marketed beans to be fermented. Although these policies were due to come into force in 2016, many farmers continue to sell unfermented cocoa.

The introduction of certification and traceability systems is another aspect of the Indonesian cocoa industry. The schemes provide a premium as an incentive to adopt sustainable practices that are not only good for the environment but also guarantee higher yields for farmers. There have been mixed views on whether certification systems benefit farmers. There have been some findings that the price premiums received by farmers do not compensate for expenses farmers bear in participating in such programs.³⁰ Nevertheless, many players are pledging that by 2020 they will only buy third-party certified sustainable cocoa. It seems that certification systems are an attempt to shape the overall direction of the industry.³¹

C. Gender and social inclusion considerations

Both men and women play a role on cocoa farms in Indonesia. Men typically are responsible for the pruning, fertilizing, harvesting, and carrying the sacks of harvested cocoa. Women are responsible for sanitation (cleaning and preserving), cutting the cocoa pods, and drying the cocoa. This segregation of farming tasks has become less marked since declining yields and other issues have resulted in extra labor being needed to manage the cocoa farm. Male labor is often insufficient to manage multiple locations of cocoa farms, and women also become involved in pruning, fertilizing, and harvesting. Both women and men face many challenges working in the sector, but women face extra hurdles. An Oxfam study conducted in Sulawesi found that women farm laborers were paid 25% less than men (Rp 15,000 an hour compared to Rp 20,000 an hour), justified by the argument that men's work involves more heavy lifting. Cocoa farmers often lack means to transport their cocoa to markets in neighboring towns, which results in them accepting lower prices for their cocoa from local traders, which is more of a problem for women who are unable to travel alone. In addition, with their extra household duties, including the time-consuming and laborious task of fetching water over long distances in some communities, women have less time to participate in training and development activities. Female laborers in cocoa processing factories and warehouses also work in harsh environments without legal contracts for below minimum wage standards.³²

Many cocoa sustainability programs globally have focused on male farmers as the main target beneficiary to support development of the Indonesian cocoa sector, with the result that extension services and support becomes more available and accessible for male farmers, while women are positioned in a

³⁰ Murray, D. L., et al. (2003), *One Cup at a Time: Poverty Alleviation and Fair Trade Coffee in Latin America*. Colorado: Colorado State University; Jaffee, D. (2007), *Brewing Justice*. California: Univ. of California Press; Beuchelt, T.D., and Zeller, M. (2011), Profit and Poverty: Certification's troubled link for Nicaragua's organic and fairtrade coffee producers. *Ecological Economics*, 70 (7) 1316-1324; and Barham, B.L., and Weber, J. G. (2012), The Economic Sustainability of Certified Coffee: Recent Evidence from Mexico and Peru. *World Development*, 40 (6): 1269-1279.

³¹ Pye-Smith, C. (2011), *COCOA FUTURES: An innovative program of research and training is transforming the lives of cocoa growers in Indonesia and beyond*. ICRAF Trees for Change, no. 9. Nairobi: World Agroforestry Centre.

³² Field note, retrieved 12 July 2017, <https://www.oxfam.org/sites/www.oxfam.org/files/gender-inequality-cocoa-indonesia.pdf>.

supportive role. Women's empowerment programs in the cocoa sector focus both on encouraging women to participate in training and other activities to enhance productivity and on specific areas where women have a role, such as post-harvest activities including fermentation, drying, and sorting.

3.1 Evidence gaps that the current evaluation fills

The findings from previous interventions in the cocoa sector in Indonesia are relevant to the current evaluation in several ways. First, the successes of the projects in increasing farmer production and income show that improving farmer productivity through training is doable at the project level. Second, the major challenge is in developing mechanisms to provide support services to all Indonesian cocoa farmers in a sustainable manner. Some interventions have demonstrated that individual entrepreneurs have more potential in this area than farmer groups and the government. Third, little traction has been gained in efforts to improve farmer income and Indonesian cocoa quality through post-harvest processing (e.g., solar drying and fermenting), as the price incentives do not motivate farmers to do the extra work.

This evaluation will take a different approach in that seeking to compare approaches and perceptions of progress across multiple projects at a singular point in time will shed light on the factors which contribute best to farmer knowledge, attitudes and practices in the cocoa sector.

Secondly, these grants are functioning under a shared funding partnership model which has not yet been done in the cocoa sector. This PE will explore the strengths and weaknesses of such a collaborative relationship in effectively addressing the needs of the cocoa sector in a more sustainable way, identifying which actors have been critical thus far and which will be necessary to ensure longevity of results.

Lastly, this PE will seek to identify if any of the enabling or constraining factors previously and widely documented are still applicable at the time of the evaluation, and if their dependence on external factors (geographic region, weather, the international cocoa market, etc.) is enough to create sizeable rifts in the progress of the cocoa sector in Indonesia. If so, the evaluation will chart existing strategies and initiatives and highlight any which have not proven to be successful despite repeated interventions, to make future interventions more cost and time efficient.

4. EVALUATION DESIGN OVERVIEW

4.1 Performance Evaluation Purpose

A performance evaluation allows for in-depth exploration of implementation efficacy through qualitative and quantitative data collection and short- to medium-term outcome monitoring. MCC and MCA-I have contracted Social Impact, Inc. (SI), to conduct a pre-post qualitative performance evaluation (PE) of the Cocoa sector grants under Window 1, by specifically assessing three grants in this Window. The PE's primary purpose is to identify the project results (outputs and outcomes) and assess program implementation to-date. This will enable MCC and MCA-I to capture lessons learned and inform future cocoa grant project design or similar value chain design under the GP project.

The evaluation includes two phases of data collection: Phase 1, with data collection six months prior to the completion of project activities, will identify immediate, realized short- and medium-term outputs and outcomes of the three Window 1 cocoa grants and identify lessons learned in each grant as the projects come into their last few months of implementation (ending March 2018). Informed by the results from Phase 1 data collection, the proposed Phase 2 will occur two years after Phase 1 data collection in 2019 and will explore long-term outcomes such as reduction in greenhouse gas emissions and improved livelihoods through income and knowledge increases. The phasing of data collection activities is intended to both identify immediate lessons learned in each of the grants in their implementation to date and to capture changes in cocoa programming outcomes over an extended period of time.

4.2 Evaluation Questions

The evaluation questions (EQs) were developed in consultation with MCC and SI. The EQs focus on common issues across the three projects in the portfolio pertaining to the cocoa sector in Indonesia, as well as on comparing outcomes among the three initiatives. The evaluation questions pertain to Phases 1 and 2 of data collection, but the areas of inquiry pertain only to Phase 1 of data collection, as the methodology for Phase 2 of data collection will be elaborated prior to data collection in 2019.

Table 6: Cocoa PE evaluation questions

#	Evaluation Question	Evaluation Areas of Inquiry
1	<u>Efficacy and Training Approaches</u> To what extent have the GP cocoa grants' (Cocoa Revolution, GP-SCPP, and EQSI) training approaches proven successful in improving farmers' knowledge, attitudes, and practice of GAP/GEP?	<ul style="list-style-type: none"> a. What have been the most effective training approaches in GAP/GEP, and why? (comparison of approaches among the 3 grants, curricula) b. How are beneficiaries targeted under each grant? Do participants have equitable access to training and activities? c. How have GAP/GEP principles and measures been applied or adopted by trainees after training? What are adoption rates, and what contributes to adoption rates? d. What are enabling or constraining factors to training efficacy?
2	<u>Validation of the Theory of Change</u> How has each grant progressed in achieving its short- and medium-term outcomes (phase 1) and long-term outcomes (phase 2)?	<ul style="list-style-type: none"> a. What are perceptions of and documented changes to income, management/financial practices, product quality, and value chain integration? b. What are perceptions of and documented changes in access to supplies/land, markets, and knowledge?

		<p>c. What methods are used to verify and document the number of participants trained, number of hectares of sustainable product, fertilizer use, and farm yields?</p> <p>d. What are enabling or constraining factors to any of the above areas (2a–c)?</p> <p>e. What challenges or limitations exist in timely verification/documentation, validity, and confounding factors for monitoring data?</p>
3	<p><u>Sustainability</u></p> <p>What evidence is there that results or outcomes of the GP cocoa grants will be further scaled and sustainable, and what results appear to be less sustainable? Why?</p>	<p>a. What are the exit strategies for each grant?</p> <p>b. What role do global market trends or priorities play in considering sustainability?</p> <p>c. To what extent have grants engaged key actors and entities in ensuring sustainability? Who are key actors, what is their role, and what type of support will they need after the project ends?</p> <p>d. What factors have been identified that will enable continued success for farmers and smallholders, including key strategies or approaches (certification, fermentation, incentives)? What challenges or limitations may affect sustainability of grant outcomes?</p>
4	<p><u>Lessons Learned</u></p> <p>What aspects of the GP cocoa grant approaches have proven to be most relevant in meeting the needs of the Indonesian cocoa sector?</p>	<p>a. Have grantees received any feedback from companies, farmer associations, co-ops, or GoI? What is done with this feedback?</p> <p>b. Are there any notable considerations for activity implementation within specific regional or demographic areas?</p> <p>c. To what extent can M&E practices/systems provide useful data for future programming or activity assessments?</p> <p>d. To what extent do inclusion in organizations, KUD, etc., affect farmer learning and earning outcomes?</p> <p>e. What, if any, lessons, practices, or successes can be applied to other value chains and to MCC and/or other private and public stakeholders' work in (or outside of) the cocoa sector?</p>

4.2.1 Key outcomes linked to program logic

This evaluation addresses key short-term, medium-term, and long-term primary outcome areas of the selected cocoa grants.

Table 7: Short-term, medium-term, and long-term outcomes of GP cocoa grants

Short-term Cocoa Partnership Grant outcomes	Medium-term Cocoa Partnership Grant outcomes:	Long-term Cocoa Partnership Grant Outcomes/Goals
<ul style="list-style-type: none"> • Good farming practices adopted • Improved agricultural input mechanisms • Higher value products produced • Farmers undertake voluntary farm certification • Improved marketing mechanisms • Increased stakeholder awareness and knowledge of GHG and carbon sequestration • Farm sustainability and land use practices improved 	<ul style="list-style-type: none"> • Improved access to markets • Increased farm productivity and product quality • Increased income from cocoa production • Increased adoption of environmentally friendly practices by farmers 	<ul style="list-style-type: none"> • Poverty reduction and reduction of GHG emissions

Short-term outcomes are defined as those results that are achievable during the timeframe of the project (assessed at Phase 1), while medium-term outcomes are realized beyond one year after completion of the project (initially assessed at Phase 1 and again at Phase 2).

4.3 Evaluation Methodology

The evaluation included 6 main components:

- 1) **A review of documents and secondary data** including background project documents and reports, government data, global market reports, M&E and strategic plans, and project design documents gave the ET an in-depth understanding of what the grantees aim to achieve, enabled the ET to review reported achievements relative to planned targets and timelines, and provided material for addressing the evaluation questions. Annex 3 provides a list of key documents that were analyzed by the ET.
- 2) **Monitoring data on inputs and outputs** was referenced for all grantees. MIS data includes beneficiary (individual or group) level data collected quarterly, including sex disaggregated demographic data where recorded to enable frequency analysis and disaggregation. The ET requested data from GP-SCPP, EQSI, and CR monitoring systems and recent reports for information on training outcomes and activity completion. Collation and analysis of this data is used to address evaluation questions 1 and 2 on training efficacy and progress made toward achieving the TOC. Some data was not received because of the inability of the grantee to collect it during routine monitoring; this has been discussed under “Limitations” and is addressed further in section 5.2.4. The ET also collected data from the projects’ databases pertaining to the actions of the grants toward the GP-Cocoa Portfolio goal of reducing GHGs. This included data relating to fertilizer use, changes in tree cover, land conversion, encroachment on forests and nature reserves, and organic soil enrichment processes. However, it is worth noting that grantees were not provided with a standardized set of GHG-related indicators for reporting. The ET also utilized data retrieved from a simultaneous MCC evaluation on GHG with a third-party contractor, including grantee-reported data on fertilizer and land use and tree planting. This data has been triangulated to complement qualitative data collected on improved farmer practices and is reported on in section 5.5 on GHG emissions data.
- 3) **Key informant interviews (KIIs)** were conducted with project stakeholders to collect qualitative information around participant observations and perceptions about project outcomes, strengths and weaknesses in programming, and lessons learned. Questions focused on perceptions and analysis by stakeholders of grant activities and outcomes and provided input for EQs 1–4.
- 4) **Focus Group Discussions (FGDs)** were conducted with male and female farmers to obtain qualitative information on their experience under each project. Questions focused on feedback on training and farming practices relating to growing cocoa, processing cocoa, and selling cocoa, as well as perceived challenges or successes on individual cocoa farms.
- 5) A **mini-survey** was conducted with the same male and female farmers participating in the FGDs consisting of open- and closed-ended questions to obtain quantitative data to underpin the qualitative FGD findings. The focus of the survey questions was on changes in practices and livelihoods before the project and since the project has commenced. Basic farmer demographic, household, and farm information was also recorded to support disaggregation for data analysis. Surveys were self-

administered immediately following FGDs, with oversight provided by an ET member to ensure participants understood terminology or could ask clarifying questions as needed.

- 6) Along with FGDs and KIIs at the farm level, the evaluation team also conducted limited **field observations** of ongoing farmer activities for verification of information gathered from interviews, including farmer plot conditions and buying unit activities.

4.4 Study Sample

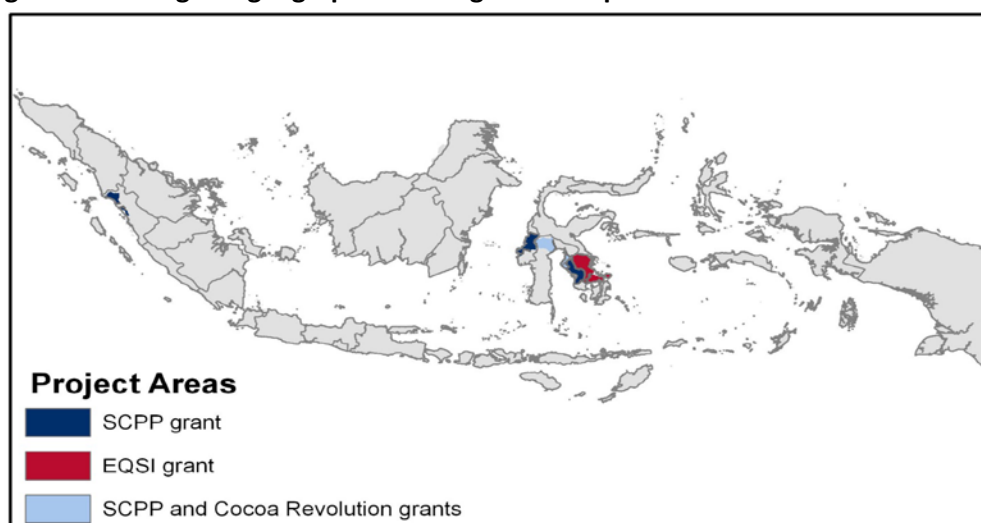
The sampling strategy includes purposive and random aspects. Provinces were selected for field study based on the number of cocoa farming households and the number of program target farmers. The ET selected Southeast Sulawesi, South Sulawesi, West Sulawesi, and West Sumatra as target provinces due to the high numbers of cocoa farming households and participating farmers and also to cover the main GP-SCPP implementation “clusters.” GP-SCPP implementation clusters are strategies tied to particular locations (provinces) where the private sector partners working with GP-SCPP in that location sign up to a particular approach and agreed to work together.

Selection of districts was purposive, aimed at representing the major regions of the national cocoa production areas and all the grants involved in the Cocoa portfolio. The Cocoa Revolution program is only implemented in two districts, both of which are included in the evaluation. The EQSI program works in three districts, two of which are included in the evaluation. Four out of ten GP-SCPP districts in the selected province have been selected, including two that overlap with the other projects. Because of its larger scope and large number of project partners and clusters, more fieldwork was conducted at the GP-SCPP sites. A full list of site visit locations is available in Annex 4, the Field Study Plan.

Table 8: Project site and district selection

Project	Province	District	Sub District	Company/Cluster
EQSI	Southeast Sulawesi	South Konawe	Puurema Subur, Allengge Agung	KKI
		Konawe	Beselutu, Lambuya	KKI
CR	Southeast Sulawesi	North Kolaka	Rantenagin, Batu Putih	Olam, Cargill Mars
	South Sulawesi	North Luwu	Sabbang Sukamaju	Olam, Mars, Ecom
GP-SCPP	Southeast Sulawesi	East Kolaka	Lamandia, Dangia	Cargill, Ecom (cluster)
	South Sulawesi	North Luwu	Sukamaju, Malangke	Olam, Ecom, Mars, Barry Callebaut (cluster)
	West Sulawesi	Mamuju	Papalang, Sampaga	Ecom (cluster)
		Majene	Malunda, Tubo Sendana	Barry Callebaut (cluster)
	West Sumatra	Padang Pariaman	Sungai Garingging	Not yet established (expected cluster JB Cocoa)
		Pasaman Barat	Pasaman	

Figure 3: Cocoa grant geographic coverage to be explored under PE



The individuals selected for key informant interviews include those working in key positions for project stakeholders, including project staff (management and technical staff), government (Bappeda and Department of Agriculture representatives), private sector partners, buyers, and local community leaders. They were selected purposively based on comprehensive contact lists and input received from grantees and from MCC and MCA-I regarding appropriateness and level of project involvement. Project reports were also used to identify the key actors. The ET was unsuccessful in reaching GP-SCPP consortium partners from Nestle and Mondelez, and there were no alternate contacts provided for these informants. The team conducted a total of 65 KIIs, with 38 for GP-SCPP, 13 for CR, and 14 for EQSI. Additionally, there were 11 KIIs held with MCC and MCA-I staff (55% women and 45% men) that were not grantee specific, for a total of 75 KIIs (37.3% women and 81.3% men). EQSI had the lowest number of female KII respondents and lacked female representation at the regional and district management level. None of the grantees worked with female community leaders.

Table 9: Total qualitative key informant interview respondents

Total Respondents	GP-SCPP			CR			EQSI		
KII	#	m	f	#	m	f	#	m	f
Program Management	8	4	4	3	3	-	3	3	-
Private Sector Partner	8	6	2	3	2	1	1	1	-
Local/Field Project staff	5	2	3	4	3	1	2	2	-
Project Technical Specialist	3	2	2	1	-	1	1	1	-
Government	9*	13	7	-	-	-	3*	5	-
Community Leader	5	5	-	2	2	-	2	2	-
Farmer Association Management	-	-	-	-	-	-	2	2	-
<i>Total</i>	<u>38</u>	<u>32</u>	<u>18</u>	<u>13</u>	<u>10</u>	3	<u>14</u>	<u>16</u>	<u>1</u>

*Several government interviews were attended by multiple persons, often up to 5. These have been counted as one interview for one grantee, but the number of men or women as total respondents is taken into consideration, which is reflected in the counts in this table.

For **beneficiary FGDs** and the **mini-survey**, in each district two farmer groups were randomly selected from a complete list of all farmer groups. Each group selected represented a different sub district, and project field staff assisted the ET with contacting each farmer for recruitment for the FGDs. The sample unit for the FGDs and the mini-survey was the farmer household represented by the farmer.

While the ET intended to conduct sex-disaggregated focus groups to ensure comfort levels for all participants in sharing information and to get specific insight on the experiences of female farmers, this was not deemed necessary by female farmers or project field staff; had the FGDs been restricted to single-sex, the level of participation would have been lower owing to the smaller proportion of female farmers under the project and the other competing priorities and responsibilities of women in the household that would have restricted availability. Each FGD obtained a gender balance of participants and ensured their participation during the group discussion.

While the ET sought to only select beneficiaries that commenced involvement in the programs under the GP funding window, the level of disaggregation separating “new” farmers from those who had been trained prior to the project within farmer groups was not uniformly monitored under each grantee’s M&E systems. Thus, the ET asked project field facilitators to prioritize inviting only known new farmers for inclusion in the FGDs, with the understanding that the groups may also include a mix of new and existing farmers from the randomized list. To understand social and gender inclusion, field facilitators were also asked to recruit female respondents and poor farmers from the same randomized selected farmer groups where they were able. A total of 16 FGDs were completed, with eight done for GP-SCPP, four done for CR, and four done for EQSI; there was an average of 10.5 participants in each group, and an overall participation of 40.5% women and 59.5% men out of 163 total respondents. For the mini-survey, a total of 148 respondents participated, with 87 for GP-SCPP, 19 for CR and 42 for EQSI and an overall participation of 38% women and 61.4% men. The sample size is not large enough to draw statistical inferences so the mini-survey was conducted to identify trends only. The smaller amount for CR reflects the fact that one of the larger FGDs consisted of farmers who incidentally did not own any cocoa farms and had not yet begun training, making the FGD results invalid and the mini-survey unable to be completed. The higher number of participants for the GP-SCPP reflects the fact that several farmers opted out of participation in the focus group, and preferred to complete the survey. About 1/3 of respondents had completed primary school, with a quarter having finished secondary school and another quarter having finished high school, which facilitated a high rate of completion of the mini-survey. Literacy challenges were more evident with female FGD participants, but minimal.

Farms selected for **direct observation** were identified by project staff and were also participants in the FGDs conducted. They were selected based on feasibility and proximity to the FGD site. Buying stations selected for direct observation were selected purposively, as not every village visited had a buying station, and the ET selected these based on the station’s proximity to grantee activities, provision of services to grantee beneficiaries, and location identification from consortium partners. The complete listing of key informants for each grantee, focus group locations, and dates for each data collection activity are included in Annex 4.

Table 10: Beneficiary data collection

Total Respondents	GP-SCPP			CR			EQSI		
	#	m	f	#	m	f	#	m	f
FGD	8	44	41	4	26	10	4	27	15
Direct Observations									
Buying Unit	2	2	-	2	2	-	n/a	-	-
Cooperative/farmer association	1	-	1	-	-	-	-	-	-
Farm	7	5	2	2	2	-	4	3	1
Cocoa Service Provider	2	2	-	-	-	-	-	-	-
<u>Total</u>	<u>12</u>	<u>9</u>	<u>3</u>	<u>4</u>	<u>4</u>	<u>-</u>	<u>4</u>	<u>3</u>	<u>1</u>
Mini-survey	87*	52	35	19**	12	7	42	27	15

*In several GP-SCPP FGDs, additional male farmers were on site but elected not to participate in the FGD; however, these farmers did want to complete a mini-survey, which led to a higher number of mini-survey respondents

**In one CR FGD, none of the participants had undergone training and in another FGD only a portion of participants had undergone training, making the mini-survey not applicable for these farmers. Thus, the CR mini-survey numbers were smaller than the team anticipated during sampling.

Field Data Collection

The team started in Jakarta, where they met with MCA-I for an **inbrief** and with relevant implementing partner key informants, and then conducted three-and-a-half weeks of field data collection. See Annex 4: Field Study and Travel Plan for more details. In each district, the team divided into two teams of two, with one Indonesian team member on each team to maximize local knowledge. At each meeting, one team member facilitated the interview, with the other recording the interview and taking notes. The ET conducted KIIs and facilitated FGDs in Bahasa Indonesia, since most of the farmers are fluent and at least have completed primary school. One translator was hired to accompany the team and provided translation and transcription assistance in Bahasa.

Data Management

The ET took notes during data collection, ensuring that all important statements and ideas were captured, and uploaded all notes to a shared server. Additionally, all interviews were recorded with the permission of the interviewee, to aid in transcription and analysis following each interview. Completed recordings were uploaded and saved securely on the Team Leader's external hard drive. The mini-survey was paper-based and administered to FGD attendees following the completion of each FGD. After completion, the ET member checked the survey for consistency and communicated any inconsistencies with farmers on the spot. Data collected from the mini-surveys was entered into a spreadsheet at the end of each day of field work for ease of analysis.

The instruments (KII guides, FGD guides, mini-survey instrument, and direct observation protocols) were translated into Bahasa and piloted in Makassar prior to field travel to check for comprehensibility for beneficiaries, logical flow, and time required. Based on the testing, the final protocols were amended, shared with, and approved by MCC. All final protocols are included in Annex 8.

Data Analysis

Throughout site visits, the ET analyzed findings daily to determine emerging trends in order to aggregate findings around common themes. The ET used content and comparative analysis to identify response

categories and patterns and identify emergent themes and contextual factors. After data collection, the ET aggregated data by coding interview responses and feedback obtained from the KIIs and FGDs around common and key themes related to the four EQs. For quantitative mini-survey data, the ET inputted data electronically into a working Excel document to conduct basic frequency tables for analysis and identify any emerging trends and compare subgroups via cross-tabulation. Data analysis tabulated responses and disaggregated data, where possible by project, private sector partner, region, and gender, to understand what changes occurred and how this might have varied among beneficiary groups. SI analyzed data obtained by FGDs by project, location, and gender to capture any differing perspectives of grant approaches and experiences among groups.

Mixed methods analysis is sequential and parallel to both identify emerging issues and to strengthen the reliability of findings. The ET triangulated MIS and mini-survey data with its qualitative findings to ensure the credibility and reliability of findings. Through this use of qualitative data, the team examined questions of how or why activities were perceived successful or not, including for key groups such as women, and compared stakeholder perceptions of issues such as challenges to efficacy or how project activities affected stakeholder relationships.

As this PE explores three separate grants, the ET's analysis identifies best practices and lessons learned by making comparisons between each of the grants in terms of the outcomes of their programmatic approaches for each of the EQs. As the three grants have widespread and differing budgets and implementation strategies, this comparison includes any trends, similarities, or differences in efficacy related to geographic distribution, training, and overall achievement of program outcomes to date.

Challenges and Limitations to Data Collection and Evaluation Validity

The first challenge relates to the **sample representation** owing to the large number and spread of beneficiaries, particularly in relation to GP-SCPP, and the limited time and budget for data collection across numerous sites. The sample was not statistically representative of the population. The approach of the study was qualitatively led, although the mini-survey was conducted to support qualitative research. This meant that the research largely focused on identifying trends, rather than identifying the prevalence of them with certainty, and sought to identify contribution rather than attribution.

With the limited logistical scope, there is potential to miss important differences pertaining to factors such as private sector partner, ethnicity, location and socioeconomic status and gender. This is in spite of the fact that the ET disaggregated data along these lines: the samples (quantitative and qualitative) are unlikely to be large enough to reach definitive conclusions in relation to these differences.

There are **confounding factors** regarding assessing the efficacy of training. The ET based information gathering on assessments of the curriculum, asking farmers and other stakeholders about their views of the training and looking at project outputs. However, outputs do not necessarily signal efficacy or attribution to a specific grant approach. There could be other factors affecting farmer yields (e.g., better weather, a drop in pest and disease burden, training from other providers, income from other sources that enables farmers to purchase fertilizer). This limits the ability to utilize evaluation findings to make generalizations about the efficacy of various training approaches in improving farmer yields.

Some M&E data collected by the grantees that would have complemented the PE snapshot was not available to the ET. This included pre- and post-training assessments. Grantees also conducted baseline studies and planned to conduct postline studies, but the latter had not yet been completed at the time of the PE. Data from the pre/post training assessments and postline studies would have been useful for the PE to test findings and report findings with more certainty. The data collected by the grantees themselves (baseline and postline) was more detailed with larger sample sizes. This data should be available for use in Phase 2 of data collection.

There were also challenges to ensuring that the PE farmer participants represent the full range of beneficiaries in terms of their success in implementing the training and their involvement in the program. This is because, at the level of farmer group, it is difficult to control who participates in data collection, as it depends on who is available on the day of a FGD. There is a potential for **selection bias** to occur in the selection of participants by group leaders or field project staff. At the level of village and farmer group, the ET endeavored to minimize such bias by randomly selecting farmer groups from a list of all active groups and instructing the facilitators to select every other name on the group list. In some FGDs, entire farmer groups would appear for the FGD (over 25 people), and the ET randomly selected participants from those present.

There is also the potential, when communicating with participants, to obtain information that does not accurately reflect the situation on the ground and/or their true opinions, referred to as **positive response bias**. This could be due to misunderstanding or a sense of pressure on behalf of the respondent to express a particular, usually positive, view. The ET mitigated the input of inconsistent information into the PE by explaining to participants that the ET was interested in their honest opinions, and there were no consequences for expressing certain opinions. The ET also triangulated all data sources to present a holistic picture of all findings.

Recall bias can be expected when asking beneficiaries to self-report on information from their past, either because they may not remember or may answer incorrectly. ET members worked closely with mini-survey responders to assist in answering questions and identifying how to answer questions they were unsure of. Respondents were encouraged to state “I don’t know” rather than just writing an incorrect guess relating to their farming approaches before and after training. Questions pertaining to yield and income measurements were deemed unanswerable for farmers, as most did not track or record this level of personal reporting detail or did not feel they could honestly remember the detail. Among some, particularly older farmers and women, the literacy level was observed to be quite low.

5. FINDINGS

All findings are extricated from qualitative data self-reported by farmers, project staff, and stakeholders including perceptions, opinions, and feedback. Where noted, observations and quantitative findings from self-administered mini-survey results and grantee data are exhibited to present a well-rounded picture of grantee progress to date, challenges, and potential for achievement of long-term outcomes.

5.1 Evaluation Question 1: Efficacy and Training Approaches

To what extent have the GP cocoa grants' (Cocoa Revolution, GP-SCPP, and EQSI) training approaches proven successful in improving farmers' *knowledge, attitudes, and practice* of GAP/GEP?

5.1.1 What have been the most effective training approaches in GAP/GEP and why?

This section looks at grantee achievements in reaching overall targets of trained farmers in specific training modules, compares the curricula for each project, investigates beneficiary selection, and finally looks at evidence of efficacy for each training approach.

The content of the training across the grants was quite similar, built on research and experience developing sustainable intensification through previous projects. The three grants drew on training curricula created under preceding programs and developed them further. GP-SCPP drew on their previous module from SCPP for the GAP basic training under GP-SCPP, but all the other modules were developed by a curriculum development team including one international staff member and two national staff members. Consortium members reviewed and provided input into the training content. The training manuals were a culmination of over 12 months of effort in compiling the relevant information, adapting it to an adult education training methodology, testing in the field, and revising several times. Document review and KIIs determined that CR drew on the extensive training packages that had been developed through previous programs such as AMARTA and Success Alliance. In developing the Climate Smart Modules, the CR team had support from RA Senior Climate Experts. The climate field coordinator worked on integrating the material from RA (CSA) and Olam (GAP) into modules that could be delivered to farmers. The nine modules were pilot tested before delivering to farmers. The EQSI curriculum was developed by the project staff. CR and EQSI also pilot tested their curriculum before delivering to farmers.

Annex 5 provides a table of the full training curriculum for each grantee. All three of the grants covered the basic GAP topics of (i) soil and plant nutrition including fertilization, (ii) farm management including pruning, frequent harvesting, and sanitation and shade tree varieties management, (iii) pest and disease management, and (iv) cocoa and shade tree rehabilitation through seedling and budwood propagation and side and top grafting. Each grant also addressed good financial and farm management practices. The GEP modules covered environmental management and utilization of environmentally friendly materials like compost and waste management, understanding climate change, and engaging in environmentally responsible activities.

There were some unique aspects of the training content for each of the grants. CR included the topics of Sustainable Agriculture Network (SAN) Standard for Certification (the Standard was launched in 2016 as the basis of the SAN Assurance Solutions services and the Rainforest Alliance certification system used in more than 100 crops and 50 countries) and Climate Smart Agriculture approach to reorienting agricultural production in light of climate change concerns. GP-SCPP covered Good Nutritional Practices, third party certification (under the Internal Management System of UTZ audits and quality standards), and Good Business Practices. EQSI covered the additional topics of fermentation training and silviculture for critical land restoration and agroforestry. EQSI training had more emphasis on agroforestry built out of a

preceding project, Agfor, a collaboration with the International Center for Agroforestry Research aimed at improving farmers' income in Sulawesi by developing dynamic agroforestry systems.³³

The grantees used adult education agriculture training approaches so that farmers could understand the training and see how the techniques work in the field. Staff from the three grants all explained that they used adult education techniques to ensure that farmers could understand the training. The delivery of training in Farmer Field Schools (FFSs) (with the exception of CR within which training was delivered both on-farm and in the classroom³⁴) was critical to this approach. Training of trainers was provided by master trainers to deliver TOT to field facilitators, who in turn deliver on-farm training to farmers in farmer groups. All three grants also used demonstration farms, which are gardens that belong to professional farmers where farmers can see the results of the different technologies and approaches. Farmers in one GP-SCPP FGD and 75% of EQSI FGDs stated they thought demonstration farms are positive because they enable farmers to see workable models that they can follow in practice. While this wasn't stated by any of the CR FGD participants, it was confirmed by half of the CR KIIs and 30% of the EQSI KIIs.

Table 11 below shows that under the GP grants, each of the grantees has met its targets for establishing demonstration plots, identified as good practice by farmers, with GP-SCPP exceeding its target by almost twice as many plots.

Table 11: Number of demonstration plots established by grantees

Project outputs (short-term)	GP-SCPP			CR			EQSI		
	Target	Actual	% Achieved (end Sept 2017 Q9)	Target	Actual	% Achieved (end June 2017 Q8)	Target	Actual	% Achieved (end Sept 2017 Q7)
# Demonstration plots established	225	409	182%	40	40	100%	40	40	100%

Nevertheless, there were some issues with comprehensibility of the training by farmers, related to low levels of literacy; farmers in one SCPP FGD and one EQSI FGD, one Field Facilitator for both SCPP and EQSI, and CR management staff stated that farmers struggled to understand the training due to low levels of literacy or minimal education. It was also noted that there was a need for grantees to meet ambitious timebound training targets and the total number of farmers each grantee planned to train in a given subject area. Amount of time spent in training varied; SCPP and CR program designs identified the number of hours of training for each trainee as 60 and 177, respectively. EQSI did not provide information on the number of hours per trainee. KIIs for all grantees stated that the training focuses on **quantity (reaching high beneficiary targets) over quality**. For example, farmers in one CR FGD stated that the training is very ambitious, and, because of the high number of farmers and limited time for training, farmers do not end up with very intensive training. GP-SCPP farmers did not report this, but the sentiment was echoed by 4 GP-SCPP KIIs. KIIs for two GP-SCPP project staff stated that training is too generalized and not specific to

³³ "Agroforestry and forestry linking knowledge with Action," found at <http://www.worldagroforestry.org/project/agroforestry-and-forestry-sulawesi-linking-knowledge-action>.

³⁴ According to the GP-RA partnership agreement, the delivery of training for each trainee that participated in the 9 modules would include 97 hours in the classroom and 87 hours in the FFS.

regional realities. KIIs for GP-SCPP and EQSI stated that field facilitators are too focused on completing the modules and not enough on understanding the context, but these views were not echoed by farmers in FGDs. Farmers in GP-SCPP and CR FGDs felt that trainers could benefit from improved skills in facilitation, and for GP-SCPP, improved skills in nutrition.

For some farmers, the content of the training was not new, but the effectiveness of some previous training was limited, so farmers still need further training. Farmers in 50% of FGDs for GP-SCPP, 25% of FGDs for CR and 75% of FGDs for EQSI stated that farmers have had training from multiple sources including district Government Department of Plantation and Estate Crops, Mars, GP-SCPP, AMARTA and GERNAS, which was confirmed in KIIs with all grantees. However, farmers in West Sumatra had only been exposed to government training before SCPP started in 2012. The training itself was not new for many farmers who reported being exposed to similar concepts before. This is not surprising given that, as stated in the literature review, the Government has spent \$350 million and donors have spent \$150 million on improving cocoa production at the farm-level in recent years.³⁵ Before training, grantees provided a pre-test to gauge knowledge levels of farmers in given subject areas. Many SCPP farmers tested out of some training modules due to their familiarity with the topic and prior exposure to numerous trainings; EQSI and CR farmers were generally less familiar with training topics and so received all training modules. None of the farmers interviewed specifically mentioned the CSA approach, or SAN standards by name.

Each of the grantees completed a Lifescape-Landscape analysis (LLA) in 2015 at the inception of project activities to best map out the context in which project activities will take place and identify areas of potential challenges. The LLAs conducted prior to project activities for all GP cocoa grantees also shed some light on the level of GAP and GEP knowledge at the farmer level before they were trained. For GP-SCPP, more than half of the surveyed farmers had not been trained on sustainable agriculture practices. For EQSI, the results showed that as many as 38.2% of respondents cultivated cocoa in their own way and not according to any best practice learned through training. Further, 62.7% of the EQSI respondents did not know how to overcome cocoa pests and diseases, and 83.5% of respondents did not know how to use pesticides. For CR, the LLA showed that farmers lacked confidence in farm decision making, cutting unproductive trees down, identifying correct fertilizer doses, and had uncertainty around clone and pesticide selection. Farmers interviewed in the CR LLA were motivated to improve their farms but did not say they wanted training, stating that past trainings have a poor track record of effectiveness.

PE field study research findings were consistent with LLA findings about the effectiveness of previous training, notably from the Government (National Movement to Increase the Production and Quality of Cacao (*Gerakan Nasional Peningkatan Mutu dan Produksi Kakao* or GERNAS)). Farmers in all FGDs said that many previous trainings received by the government were delivered in a classroom, not on the farm, and they were unable to practice skills immediately. One SCPP community leader stated that under GERNAS, officials asked farmers to clear the land and replant seedlings, but they did not grow, and farmers became discouraged after having cut down all their trees for faulty replanting. Both SCPP and EQSI respondents

³⁵ Cocoa bean production in Indonesia to recover in 2017, Exports Slide (December 10, 2016), found at <https://www.indonesia-investments.com/news/todays-headlines/cocoa-bean-production-indonesia-to-recover-in-2017-exports-slide/item7451?searchstring=cocoa>.

stated that under GERNAS training, farm leaders only were trained in a classroom setting and then expected to communicate lessons to farmers in their farmer group, which was not likely to ensure the lessons were thoroughly learned by all farmers.

In general, farmers and community leaders thought that the training was useful and applicable to their cocoa farming, and they also identified specific aspects of the training as beneficial. Mini-survey results showed that 100% of CR farmers (n=19), 98% of EQSI farmers (n=42) and 96% of GP-SCPP farmers (n=87) responding thought the trainings received were useful or extremely useful. During the PE, 62.5% of GP-SCPP FGDs, 33% of CR FGDs and 25% of EQSI FGDs said that **rehabilitation** of old trees was an aspect of the training that was most important because many of the farmers' trees are old and losing productivity. This sentiment was echoed by one KII for each grantee. Three of the GP-SCPP FGDs and half of the CR FGDs noted that **side grafting** is innovative, cost effective, and replicable with other crops and therefore very meaningful for training. Three FGDs said that **pruning** was most effective, as it is cost effective, and farmers were incorrectly pruning before in ways they learned were actually detrimental to their trees.

Farmers strongly appreciated the coaching and mentoring provided through the grants. The programs had provisions for coaching, and for CR and EQSI, this mentorship and follow up is conducted by lead farmers as well as field facilitators. The findings of the PE were that GP-SCPP coaching and mentoring happened more in some locations than others, particularly the Mars cluster (Luwu, East Luwu, and North Luwu), where Mars has created an initiative to teach select farmers modern production technologies. The 'cocoa doctors' created under this project not only grow cocoa, but also sell seedlings and pesticides and offer tree rehabilitation tips to other farmers, serving as mentors. In other areas, follow up was mainly provided by field facilitators. CR project staff KIIs said that farmers create a farm development/management plan to track resource allocation, labor, and productivity, and that this plan is managed by farmers for their own accountability. However, when CR farmers were asked about recording information during FGDs, none of the farmers mentioned utilizing such a plan to track any farming inputs or tasks.

Farmers in a Luwu Utara FGD for CR stated that they feel motivated when a facilitator comes so they can proudly exhibit their progress. Half of the GP-SCPP FGDs along with more than one-third of GP-SCPP and EQSI KIIs stated that following up training with technical assistance is necessary for farmers to reach independence and good productivity. Respondents in an CR FGD stated that training without coaching is not enough to ensure adoption; if farmers are left without regular follow up, they are likely to revert back to their original standards or methods of farming and forget what they were trained on. This was also confirmed in 15 percent of CR KIIs.

However, respondents from all grantees stated that they needed more coaching and mentoring support than was available from the grantees. Two EQSI KIIs stated that the one-time course was not sufficient and that farmers require refresher training. GP-SCPP's wide scope of activities also is a constraint for farmers and staff who feel they are stretched too thin. Farmers in a GP-SCPP FGD in Mamuju stated that they are currently not receiving any coaching or mentoring from project staff or outside entities, and two GP-SCPP KIIs stated that staff are very burdened with the administration for baseline and postline and do not have time for coaching and mentoring. Forty percent of GP-SCPP KIIs with management and project

staff and two FGDs stated that there is indeed an inadequate number of facilitators for effective follow up and staff lack time to follow up with farmers. Also, two CR KIIs stated that CR lacks an adequate number of facilitators to do effective follow up and they need to improve the ratio of farmer group to staff.

As Table 12 shows, the three grants had differing levels of success in reaching their training targets. It is important to note that GP-SCPP recorded data for both “existing” (prior to 2015) and “new” farmers; however, the overall targets are inclusive of all farmers and cannot be disaggregated in the same way. Thus, the GP-SCPP percent achieved towards target is based on all farmers trained to date.

Table 12: Beneficiary farmer training provided by the three grants, through September 2017

Project outputs (short-term)	GP-SCPP			CR			EQSI		
	Target	Actual	% Achieved (end Sept 2017 Q9)	Target	Actual	% Achieved (end June 2017 Q8)	Target	Actual	% Achieved (end Sept 2017 Q7)
# Farmers trained for GAP	79,000	51,384*	65%	8,000	5,711	71%	6,500	3,601	55%
# Farmers trained for GEP	71,500	21,623	30%	8,000	5,911	74%	n/a	n/a	n/a
# Farmers trained for GFP	49,026	23,940*	48%	8,000	7,864	98%	7,000	3,040	43%
# Farmers trained in Nutrition	45,400	25,338*	55.8%	n/a	n/a	n/a	n/a	n/a	n/a
# Farmers trained in Fermentation	n/a	n/a	n/a	n/a	n/a	n/a	460	100	21%

*SCPP farmers trained prior to GP funding- GAP-19,885, GFP-4,127, GNP- 10,980

Out of all grantees, CR is the furthest along in meeting its training targets. GP-SCPP and EQSI are about halfway toward their target for training for GAP and GFP. Due to the nature of the grantee reporting, it is not possible to state the overall total number of trained farmers, since M&E data does not indicate farmers who have been trained in more than one area. Thus, adding the figures above would likely reflect a double counting of beneficiaries.

Training of Trainers

The three grants all provided training of trainers to master trainers (field facilitators and lead farmers) to deliver the training to other farmers in their farm groups. Over the life of the program, GP-SCPP has trained over 800 people to lead GAP Farmer Field Schools (FFS). GP-SCPP field staff KIIs said that they learned a great deal through the TOT and that it helped them to deliver better training to farmers.

Quarterly reports noted that the CR field trainers were trained in 2015, but the total number of completed TOTs and their outcomes were not available. As noted in the table below, CR did not differentiate farmers trained in TOT from those trained in general areas. The calculations for progress for EQSI are unknown, as the grantee did not provide target figures to be measured against.

Table 13: TOT training provided by the three grants, through September 2017

Project outputs (short-term)	GP SCPP			CR			EQSI		
	Target	Actual	% Achieved (end Sept 2017 Q9)	Target	Actual	% Achieved (end June 2017 Q8)	Target	Actual	% Achieved (end Sep 2017 Q7)
# TOT/Master trainers for GAP	969	888	91.6%	*	*	*	500	535	107%
# TOT/Master trainers for GEP	444	255	57.4%	*	*	*	n/a	n/a	n/a
# TOT/master trainers for GFP	280	116	41%	*	*	*	-	63	unknown
# TOT/Master trainers for Nutrition	330	169	51.2%	n/a	n/a	n/a	n/a	n/a	n/a
# TOT/Master trainers for GBP	447	289	64.7%	n/a	n/a	n/a	n/a	n/a	n/a
# TOT/Master trainers for Fermentation	-	-	-	-	-	-	-	100	unknown
# TOT/Master trainers for Silviculture	-	-	-	-	-	-	-	604	unknown
% Lead farmers trained on GAP/SAN/Climate Smart Agriculture	30%	Unreported	0%	80	80	100%	n/a	n/a	n/a

*Cocoa revolution does not differentiate counts for TOT among their training monitoring figures. Those trained are included in the cumulative figures. **GP-SCPP includes figures for farmers prior to the start of the GP project in 2015.

5.1.2 How are beneficiaries targeted?

All grantees have a requirement of a minimum of .5 hectares for each participating farmer and a focus on cocoa as the main livelihood and income generating activity for the household. All grantees also expect that farmers' farms are not located inside protected or conservation areas or forest land. According to the CR Quarter 4 report, CR had some challenges with this because some farmers who had been cultivating for decades had farms that on a map were located in protected forest areas. These farmers were excluded from the program.

For GP-SCPP, locations for beneficiary selection are identified together with the consortium partners (March 2017, Q4 report). It is then the role of the field staff to identify new farmers who meet the criteria for joining the program's training. Upon the identification of new farmers, the program works together with officials of *Dinas Perkebunan* and some village authorities. However, three GP-SCPP KIIs mentioned that the Government and GP-SCPP had had some conflict over the selection of farmer groups. In some cases, farmer groups (Poktan) were officially registered but were not active. In such instances, GP-SCPP sometimes created new groups specifically for training purposes which were not officially registered. Some district governments were not supportive of this process and thought that GP-SCPP should respect the official, existing farmer groups. During field work, farmers in two FGDs said they were invited to register by field facilitators and that GP-SCPP had a preference for groups that are geographically close to each other. According to one GP-SCPP key informant, this was to facilitate them being included in certified/traceable supply chains. Five KIIs said that farmers were selected by the lead farmer based on their level of activity, innovation, and leadership in the village. In an area where Mars is the consortium partner, one KII said that Mars selected groups through their collectors.

The criteria for participation in CR project also expect that the farmer should not be registered in any

other program (to reduce risk of reduced loyalty) and that the project's target for including women should be reached. In KIIs and FGDs for CR, the ET learned that CR drew its pool of beneficiaries from previous participants in the USAID AMARTA project who had been certified by Olam. Their certification had lapsed, and they were to be recertified under the CR program. The additional farmers who were not previously certified by Olam were selected in cooperation with the district-level Departments of Agriculture (DoA). One FGD in Luwu Utara stated that the group trained by Olam under the CR project consisted of several members of different groups who were identified by the group leader and that this lead farmer is often selected by the community as the first to be trained. One KII stated that the DoA provided a list of all farmer groups and individual cocoa farmers who wanted to join training.

EQSI KIIs noted that farmers were selected based on the Provincial Level Department of Estate Crops database known as CPCL (Proposed farmer and land). The Estate Crops department identified the existing farmer groups and how many are still active. Those groups with more than 25 members were divided into two groups, and new farmers who were interested in participating were also able to participate. The project team coordinated with local government to prevent overlapping, because the CPCL is considered to be outdated.

5.1.3 How have GAP/GEP principles and measures been applied or adopted by trainees after training? What are enabling or constraining factors to training efficacy? What are adoption rates?

The findings of the mini-survey showed that farmers adopted some of the GAP/GEP techniques, but there were also constraints to adoption. Annex 7 shows the complete findings of the mini-survey regarding changes in practice of farmers before and after participating in the training. Mini-survey results do not show a consistent pattern of improved or changed practices after the training compared to before; nevertheless, there are several areas where improvements or changes can be seen. For all grantee programs, there were more farmers practicing sanitation after the training compared to before. For CR there was a 52% increase, for EQSI there was a 22% increase and for SCPP there was a 9% increase. For all grantee programs, more farmers reported replacing old stock with seedlings after participating in training than before participating in training, especially for CR (68%) but less so for EQSI (7%). For CR 47% and SCPP 24% more farmers replaced old stock with side or top grafting after training than before but for EQSI there was a 9% drop in the number of farmers who did this. For all programs, more farmers produced compost and bio pesticide after participating in training compared to before. For CR there was a 21% increase, EQSI a 31% increase and SCPP a 9% increase in the number of farmers making compost after training compared to before and for bio-composting there were 5% more CR farmers, 27% more EQSI farmers and 23% more GP-SCPP farmers. However, there was not a noticeable increase in the number of farmers who planted shade trees or practiced intercropping after participating in the training compared to before.

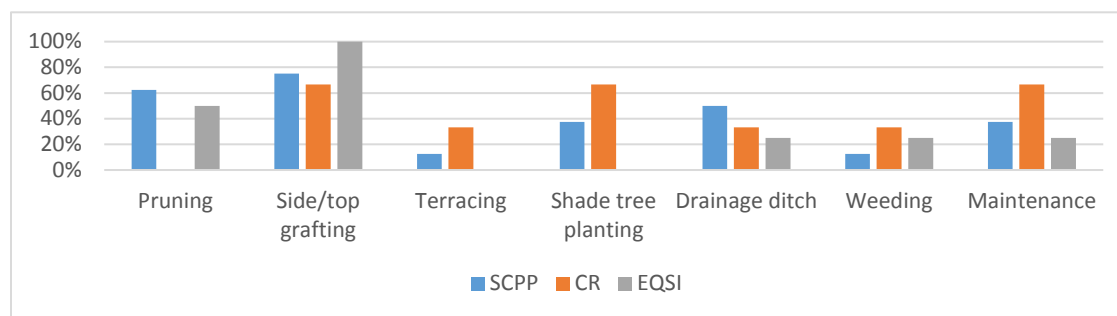
Adoption of GAP

One FGD for GP-SCPP and EQSI and half of the CR FGDs said that farmers are more focused on **pruning and sanitation** than before the training. One quarter of the FGDs for GP-SCPP and EQSI said that farmers have improved their pruning techniques, leading to an increase in pods per tree, and that farmers feel more confident in controlling pests and diseases via pruning since undertaking the training. However,

direct observation of select farms showed that while farmers were more likely to prune cocoa trees than shade trees, the pruning of cocoa trees was being done inconsistently. GP-SCPP farms visited during direct observation showed that while 88% were pruning cocoa trees, only 13% were pruning shade trees. For CR and EQSI, none of the farms visited were pruning shade trees, and only half of the CR farms were pruning their cocoa trees; none of the EQSI farms were pruning their cocoa trees.

Farmers in 37.5% of GP-SCPP FGD, 75% of CR FGDs and 25% of EQSI FGD in Konawe Selatan stated that farmers thought that **side and top grafting** has improved their productivity and can be used for other crops. Direct observation of farms showed that 100% of the GP-SCPP farms visited (n=4) had side or top grafted trees, and half of the farms for CR (n=2) and EQSI (n=2) had side or top grafted trees visible.

Figure 4: GAP practices adopted and mentioned in farmer FGDs



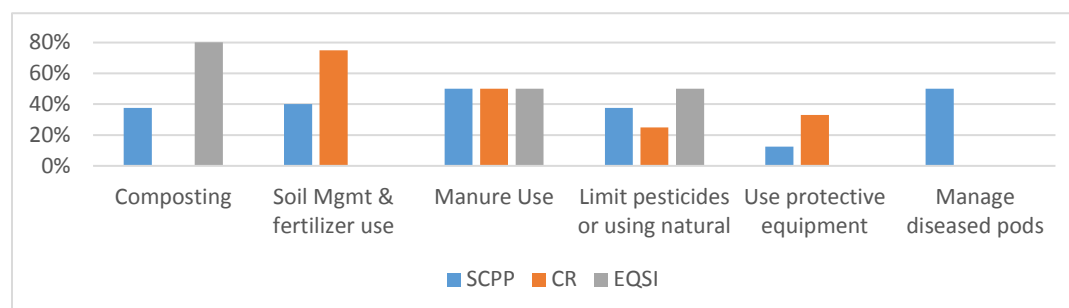
Regarding farm management, CR farmers in one FGD said that they are now terracing to **prevent erosion**, and farmers in both GP-SCPP and CR FGDs stated that they are planting shade trees to prevent erosion with new information on how far apart to space the shade trees. One of the FGDs for GP-SCPP and 50% of the CR and EQSI FGDs said that farmers are now digging ditches to enable drainage, which was also evident during observation of these farms. This was particularly important in 2017, which had been a year of high rainfall with flooding affecting crops, as confirmed by 75% of field staff.

Adoption of GEP

The curriculum of the three grantees promoted strategic use of fertilizer with a focus on using the right fertilizer at the right dosage and complementing fertilizer with compost made of organic materials around the farm to improve soil structure. The grantees also taught about which chemicals are dangerous and should be avoided. During qualitative data collection, farmers in 37.5% FGDs for GP-SCPP and 50% of the FGDs for EQSI stated that farmers are making **compost** through leaves and fruit casings- before they used to just burn these materials but now they know that these materials are reusable. This was also echoed by a KII under CR and GP-SCPP. Farmers in 40% of the GP-SCPP FGDs and 75% of the CR FGDs felt that applying the lessons learned regarding **soil management via organic fertilization and composting** was beneficial, not just for their cocoa trees but also their other crops, including coconut trees. One FGD for GP-SCPP and one FGD for CR said that farmers had learned to apply fertilizer strategically and had noticed soil improvement, which two KIIs agreed to. Half of the FGDs for GP-SCPP, CR, and EQSI said that farmers were now attempting to reduce chemical fertilizer and incorporate manure, which was also echoed by two GP-SCPP KIIs. However, direct observation of farms showed that 100 percent of the GP-SCPP and EQSI

farms visited were using chemical fertilizer, and only half of the CR farms visited were using chemical fertilizer, while 63% of GP-SCPP farms and 50% of CR farms were observed to be using organic fertilizer, which was encouraged in the GEP training. In contrast, 100% of EQSI farms visited by the ET were using both chemical and organic fertilizer and were observed to have produced their own fertilizer.

Figure 5: GEP practices most commonly adopted and mentioned out of all farmer FGDs



Respondents in 37.5% of GP-SCPP FGDs and 25% of CR FGDs said that farmers were limiting their **pesticide use** owing to increased awareness of the damage it does to their health and environment, which was also echoed by three GP-SCPP KIIs. One FGD under GP-SCPP and CR found that that previously farmers did not see the need for protective equipment when applying pesticides but they now protect their hands, eyes and skin. GP-SCPP farmers in 25% of FGDs said that farmers had learned through the training about which pesticides were banned and as a result reduced their use of them, and one CR FGD mentioned that farmers are now able to compare different pesticides. One GP-SCPP FGD as well as one CR FGD stated that farmers had reduced their use of herbicide and noticed improved soil conditions. Twenty-five percent of FGDs for GP-SCPP said that before the training farmers could not differentiate between insecticide for pests and fungicide for fungus and did not realize black pod was a fungus, but through the training they had learned the difference. Half of the GP-SCPP FGDs said that farmers had learned to manage waste of diseased/infected pods so that they would not infect other trees. The EQSI program had a big emphasis on producing and applying natural pesticides, and half of the FGDs said that farmers were producing and applying natural pesticides, which was echoed by two KIIs. The positive FGD feedback regarding pesticide use was also seen during direct observation, where the ET noted that half of the CR farms visited, 75% of the SCPP farms visited, and both of the EQSI farms visited were using pesticides. While pesticides were used, the ET did notice that the all farms visited also had the presence of infected pods or trees, as farmers noted that pests and diseases are an ongoing struggle.

Other training skills adopted

The ET also found that the training had had some influence on **farmer to farmer interaction** and organization. FGDs for GP-SCPP, CR, and EQSI found that farmers were sharing their GAP knowledge with other untrained farmers, which was also echoed by project staff and community leader KIIs. It was stated at two GP-SCPP KIIs and one FGD that farmers are more organized and coordinated in how they approach farming. Additionally, EQSI and GP-SCPP KIIs and FGDs noted that farmers like the focus on **financial literacy** and the fact that project facilitators adapt the content, making it customizable to the local context.

Constraints to adoption

While the above paragraphs show that respondents reported positive effects of farmer knowledge, attitudes, and practices, during FGDs and KIIs, respondents identified some constraints that were preventing farmers from adopting practices taught during the training despite their appreciation of the benefits of implementing the lessons from the training.

Respondents stated that a **mindset** among farmers of reluctance to change or a general demotivation to invest in their cocoa made it less likely that they would adopt the training. Farmers in 25% of GP-SCPP FGDs stated that overall farmer beliefs and behaviors are difficult to change, and this is not addressed in the training but is a much longer-term process. This sentiment was echoed by KIIs with all grantees. One respondent stated, “We can’t just expect farmers to adopt whatever is told to them.” Two GP-SCPP KIIs and one EQSI KII also stated that farmers get inconsistent information from different parties that provide information to them (e.g., fertilizer companies provide information which is often at odds with that which they receive through training), which affects their ability to adopt practices with certainty.

Another factor affecting farmers’ propensity to adopt the training was their preference to see **evidence of the efficacy** of the measures promoted through the training, but it sometimes takes years to yield results from the measures taken. One FGD for both GP-SCPP and CR noted that farmers can be trained but they will not act on the information if they do not see immediate improvements in productivity, as echoed in five GP-SCPP KIIs. However, three GP-SCPP KIIs and five EQSI KIIs stated that some approaches take three to five years to see results. Farmers in a GP-SCPP FGD stated that they tend to wait and see what their neighbors do because they want to see evidence before adopting.

The biggest factors affecting adoption of good agricultural practices in 2017 were the difficult circumstances in which farmers found themselves due to **weather and the low price of cocoa in 2016 and 2017**, as noted unanimously in over 75% of the FGDs across grantees. Farmers stated that in 2017 there had been rain all through the dry season, which was echoed in four to six KIIs across all grantees. This rain had resulted in flooding and an increase in vascular-streak dieback (VSD) and cocoa pod borer diseases as well as flowers falling off trees before they fruited. In 37.5% of GP-SCPP FGDs it was stated that increased rain was causing pest attacks to increase and 33% of CR FGDs and 25% of EQSI FGDs stated that the ongoing prevalence of pests and diseases is making farmers pessimistic, both sentiments echoed by numerous KIIs across grantees. Regarding the price of cocoa, over the duration of the Cocoa Grants Portfolio the price has steadily declined from a high of \$3,400 USD per ton in December 2015 to \$2000 USD per ton in August 2017. Fifty-percent of the GP-SCPP FGDs and 33% of the CR FGDs stated that the low price discourages farmers from adopting, as adoption requires effort, and they do not see it as worthwhile. One third of GP-SCPP and CR farmers in FGDs stated that there is limited farmer involvement in activities on farms and subsequent implementation of training because farmers are pessimistic about the future of their farm, as concurred in 6 GP-SCPP KIIs.

The evaluation team tried to ascertain whether implementing the GAP measures can mitigate the negative effect of high rainfall through the dry season or if the effect is too overwhelming. Only one GP-SCPP KII stated that proper and regular pruning would reduce the pest and disease burden even during high levels of rainfall, especially if it was consistently conducted over a long period of time. Moreover, it

is noted that a well-nourished tree is stronger and more able to resist negative environmental effects.

Gender and Social Inclusion in Training

Beneficiaries are also selected based on strategies developed by each grantee. All grantees completed a Project Social and Gender Integration Plan (PSGIP) at the inception of their project. The CR project also tracks indicators related to social inclusion of poor and vulnerable groups, and the GP-SCPP project tracks indicators related to youth inclusion. Each grant currently tracks different indicators, the progress of which are indicated below at the time of the evaluation. The PSGIP indicator progress tables for each grantee are in Annex 10 but are not exhaustive of all gender-related indicators for GP-SCPP.

Review of the most recent **GP-SCPP** PSGIP indicators from March 2017 (Q8) indicate that the project is exceeding several gender-related targets for project implementation. GP-SCPP has exceeded its targets in training women as TOT in GAP, GEP, and GFP. Additionally, in December 2016 the project developed a gender checklist to be used in training to increase women's involvement. The project is behind its targets for certified female farmers, currently at 32% of the target.

CR has also exceeded several of its targets for gender inclusion, including in training and enrollment in an online farm data management system, and the project was progressing in providing quality-based incentives for women heads of households. CR has not yet recorded its progress for certified female farmers. CR is currently the only grantee actively tracking the engagement of poor and vulnerable farmers. Unfortunately, the indicators for progress for poor farmers (those owning less than .5 hectares) were more difficult for the project to track, and while this is the minimum criterion, vulnerable farmers usually own less land. The monitoring database used by CR cannot disaggregate by income level or head of household, so these indicators are less likely to be accurate and thus cannot identify poor farmers.

CR KIIs state that poor and vulnerable farmers are difficult to engage in training activities because there is less interest in vulnerable farmers from the cocoa industry, where the focus is on expansion and production. Review of the most recent CR quarterly reports notes that there has been difficulty in engaging poor farmers, namely because the selection process of the farmer groups approached did not include a majority of farmers owning less than 0.5 ha of land.

For **EQSI**, the project has not exceeded any targets for gender inclusion. EQSI has developed a training module on organizational management and women's leadership and gender integration, which is anticipated to be rolled out before the end of 2017. EQSI participants in one FGD stated that involvement of women in the GAP and other training had increased women's confidence to participate in and speak up at meetings.

Across the 16 FGDs held, participants identified the relative roles of women and men in cocoa farming. In some areas women's roles were more restricted than others, with the differences largely stemming from ethno-cultural patterns. For example, in the matriarchal, matrilineal sites in West Sumatra, women participated in most activities, owning land and farms. This was similar among Javanese trans-migrant communities. Among the Bugis ethnic group there was more restriction on women, although Bugis households are heavily reliant on women for managing finances. Among women-headed households in all locations, however, women were required to perform both household and farm tasks. For very heavy

labor tasks such as digging ditches, heavy pruning, and chemical spraying, they had to hire labor which no doubt added considerably to the cost burden of their farms. It was observed during the FGDs that in some cases women's literacy often appeared to be lower than men's. During FGDs, female participants were asked about their experience of the training. Women at one GP-SCPP FGD stated that they were not particularly interested in the training on nutrition, although it was targeted specifically at them, and they would prefer to learn about income generation activities. Moreover, with only one day duration, the nutrition training was very short.

Women in two SCPP FGDs identified that some of the GAP training content was more relevant to them than other aspects. One woman stated that pruning was less relevant to them because this was heavy work and men's work, where a woman in a CR FGD said that as a widow, she has to do the manual labor herself. Other GP-SCPP FGDs highlighted that women want to learn about income generation activities and not only nutrition. Areas identified by women as particularly applicable to them due to their high level of participation in the activity included nursery development and sanitation. FGDs and KIIs with district/field staff revealed that training increased the confidence of women to speak at meetings. One project staff KII stated that training women and men helped couples to work better as a team, as they both operated from the same basis of knowledge.

The findings from the PE on the grantee achievements regarding support for gender equality are more varied. One MCA-I KII stated that there were challenges in persuading the grantees to adopt a comprehensive approach to promoting gender equality and gender mainstreaming. That is, the grantees tended to view the incorporation of a gender approach as extending only as far as achieving targets for women's participation rather than identifying potential areas for women's empowerment and developing a strategy for achieving these. Indeed, when asked about gender considerations, project staff for every grantee referred to women's participation in training. One CR KII also noted that cultural challenges must be navigated, and women's level of comfort in male-dominated training settings cannot be overlooked; this could pave the way for sex-disaggregated trainings in the future.

Incentives for adoption and quality

CR was the only grantee to create an incentive scheme where cash, supplies and inputs were distributed to farmers based on their uptake of good agricultural practices and quality improvements. This scheme uses the logic that farmers i) need inputs and ii) are motivated by the upward movement of other farmers. Every six months after being trained, farmers are surveyed to see if they are adopting good agricultural practices (e.g. distributing fertilizer, using proper equipment, sanitation, planting seedlings). Farmers are expected to perform post-harvest practices well, record adoption of activities in a logbook and are given a 'scorecard' with a letter grade of A, B, C or D. The better the letter grade, the higher the quantity of supplies received; inputs include improved seedlings, cocoa-specific fertilizer and personal protective equipment. The in-kind, performance-based incentives are provided between MCA-I and Olam, where 50% of the incentive is provided through Olam. For quality-based incentives, CR assesses trained farmers' product on both the SNI and SAN standards for quality. Seventy-five percent of the quality-based cash incentives are provided through Olam. While originally delayed due to procurement administration issues, as of June 2017, 6,000 out of 8,000 farmers received an incentive based on the improvement of quality of

beans (target 8,000=75%). However, at the time of the evaluation, none of the farmers in CR FGDs had reported receiving a scorecard or any incentives, so the feedback on this scheme is unknown. After GP funding, Olam will no longer be in a position to fund incentives either for quality or farm performance.

Conclusions: Evaluation Question 1

- The three grants had similar topics covered and curriculum for their training programs in GAP and GFP. Project results indicate that CR is the only grantee who is progressing reasonably well in reaching their training targets for both GAP and GFP. GP-SCPP is below targets, most notably for GFP, and EQSI is below fermentation training targets.
- The three grantee training approaches were similar, and the hands-on, on-the-farm training, use of best-practice demonstration plots, follow-up coaching, and provision of TOT to increase local skills and ownership made for the most effective training approaches. However, farmers can benefit from additional mentorship and considerations of low literacy to ensure long-term adoption.
- Beneficiary selection for grantees was not standardized and required significant government collaboration.
- Training fatigue affected some GP communities that overlapped with others and had experienced numerous cocoa farming interventions; farmers often could not remember which entities had issued them a training or the specifics of what that training covered, which makes attribution difficult.
- There were achievements regarding knowledge, behavior, and practices related to GAP and GFP as a result of the program's trainings, even though exact adoption rates are not recorded by grantees. However, weather and the low price of cocoa in 2016 and 2017 discourage farmers from adopting as they lacked the motivation to put in effort required to keep up good practices and could not afford or justify the inputs necessary to maintain their farms.
- The farmer mindset that is resistant to change as well as lack of motivation due to inability to see results are universally factors in ensuring success of training and diligence in upkeep of cocoa farms, not only in the short and medium term but also in the long term. However, it is not possible to see widespread, sustained behavior change within the short period of the grant timeline.
- Project gender considerations were made and adhered to by each grantee; however, significant gender and social inclusion requires more than just vulnerable group participation in training.

5.2 Evaluation Question 2: Validation of the TOC

How has each grant progressed in achieving its short- and medium-term outcomes (phase 1) and long-term outcomes (phase 2)?

This section addresses the extent to which the grantees fulfilled the short and medium partnership grant outcomes outlined above in Table 7 as identified in the GP Cocoa Grant Portfolio (success against the long term partnership grant outcomes will be assessed as part of postline data collection in 2019). First, this section addresses the sub-questions, and then, in the conclusion, addresses what the implications of the findings regarding the sub-questions imply for the achievements of the grantees against the short and medium term partnership grant outcomes.

The assumptions of the Green Prosperity Cocoa TOC are that training, establishment of nurseries, support to farmer groups, certification, and access to agricultural inputs will lead to improved farming practices and product quality, greater yields and income, more sustainable land use practices, and access to markets. The major focus of intensification across the theory of change for the GP Cocoa portfolio (using the ‘chainsaw theory’) as well as for individual grantees stems from the belief that utilization of high quality inputs will increase agricultural production and increase farm efficiency, limiting farmer’s needs to expand or encroach on new land and thus reduce deforestation. A summary of the different approaches of the three grants to providing a range of forms of support to farmers is detailed below in Table 14.

Table 14: Comparison of the major elements of the theories of change of the three grants

	GP-SCPP	CR	EQSI
Sustainable Access to Training, Mentoring & Capacitybuilding	GAP, GEP, GFP, GNP, Certification Plus, etc. Field facilitators, CDCs, cocoa doctors, and centers of excellence and (to a limited extent) certification auditors provide coaching and mentoring services	GAP, CSP, SAN Standards Coaching and mentoring provided by field facilitators and lead farmers	GAP, GFP, Fermentation Training, coaching, and mentoring services are provided by field facilitators and lead farmers
Access to Finance	Several pilots in this area	Not included	Strengthening of LEMS Savings and Loans Facility
Sustainable Access to Inputs/supplies	Agro-inputs made available on commercial basis by MSMEs, farmer organizations, and Centers of Excellence Nurseries built and seedlings provided GEP to maximize self-sufficiency (composting, etc.)	Inputs provided as incentives based on grading of production performance including a fertilizer formula based on analysis of local soil conditions, nurseries built, and seedlings provided CSA to maximize self-sufficiency (composting, terracing, farm)	Inputs provided as handouts, nurseries built GEP to maximize self-sufficiency (composting, bio-pesticides, agroforestry, etc.)
Support for non-cocoa aspects of income and welfare	GNP Nestle Cocoa Life (vegetable gardens, water supply systems, education, etc.)		Agroforestry Commercial forestry systems
Increased Value Chain Integration/Improved Access to Markets	Options for certification with consortium partners through cooperatives or collectors	Certification with Olam based on SAN standards	MoU with KKI to sell fermented cocoa at premium price
Incentives for improved product quality or value add	Third-party certification premiums	Incentives provided for quality; premium for selling to Olam	Premium (An extra Rp 5000 on top of the market price for non-fermented cocoa) paid for fermented cocoa

The **GP-SCPP TOC** focuses on training through Farmer Field Schools (FFSs), creating sustainable access to agro-inputs, planting material, knowledge and financial services, collaborating with international cocoa

companies to support them in investing in smallholder producers, and fostering local input markets and extension systems. GP-SCPP achieved solid progress against training targets and good outcomes in leveraging investment by international cocoa companies primarily in the context of third-party certification schemes. However, at the time of the evaluation, there were still challenges with creating sustainable input markets and extension services. As explained under EQ 1, farmers required more ongoing contact with coaching and mentoring services than they were currently accessing. Seedling suppliers, incubated by GP-SCPP, were struggling to obtain sufficient demand due to government programs distributing free seedlings and regulations requiring the certification of rootstock and budwood. Farmers were still struggling to access a reliable and affordable supply of quality fertilizer. Moreover, many farmers who were enrolled in certification schemes still sell their cocoa to local traders. The extreme weather (rain through the dry season) and the low price for cocoa in 2016 and 2017 created less than ideal conditions for farmers to invest in their cocoa farms.

The **Cocoa Revolution TOC** focuses on Farmer Field Schools (FFS), technical and management innovations such as Climate Smart Agriculture (CSA) and incentive systems, a specific market chain with an identified buyer (Blommer, GrowCocoa), and developing the CSA brand. Cocoa Revolution achieved good outcomes in developing and demonstrating innovations (local fertilizer, solar dryers, CSA techniques and improving SAN certification standards), but CR had a slight delay in startup due to awaiting the approval of their LLA methodology. Thus, there was a shorter timeframe to achieve uptake and for Olam to obtain sufficient product to facilitate ongoing investments in the innovations.

The **EQSI TOC** focuses on training/FFSs, tree planting, land restoration, timber harvesting on marginal land, and a fermented market chain with a premium European buyer. EQSI achieved some outcomes in capacity building for farmers and tree planting, but the fermented market chain did not go ahead due to technical problems at the processing plant. EQSI did not commence implementation until a year after the Cocoa Portfolio officially opened because of a disagreement with MCA-I about the approach to the program. According to one EQSI management KII, the original design included an extensive community engagement process, but this approach was rejected by MCA-I, and negotiating to a mutually agreed-upon design took some time. This left the grantee with a shorter overall period for implementation and to realize the TOC.

5.2.1 What are perceptions in and documented changes to income, management/financial practices, product quality, and value chain integration, and what are enabling or constraining factors?

What are perceptions in and documented changes to income, and what are enabling and constraining factors?

This section addresses both changes in yield and income, because improvements in yield are a major contributor to improvements in income. Data from grantee baseline and postline studies show trends of increases in farmers' yields over the duration of the GP-SCPP and CR programs. It is important to note that the ET did not verify the grantees methods of collecting data on yields, income, and other outcomes. It was noted that yield data in general was not collected universally by all grantees, including at baseline or any regular intervals throughout the project. GP-SCPP yield calculations relied on farmer-reported figures

and farm observations across all districts of implementation, collected by field facilitators and then uploaded to the data management system CocoaTrace. Yield information was to be collected at baseline and postline only but also included intermittent figures in 2016; there was no timely or accurate data at the time of the evaluation. According to CocoaTrace, in 2015 the average production per farmer was 721 kg/ha, as measured from postline surveys.³⁶ In 2016, it was reported to be 689kg/ha, and in 2017, it was predicted to be 840 kg/ha, an increase of 21.9% in two years. However, at the time of the PE, data on yields for 2017 was projected, not actual data.

CR yield calculations were completed through a sample monitoring survey and a cocoa pod-counting survey. Among the 6,000 farmers participating in the GP project, a random sample of 400 farmers was taken from Olam's Farmer Information System (OFIS) database (considered to be a statistically representative sample of 200 in North Luwu and 200 in North Kolaka, with a 95% CI and 10% error and taking into account a 10% "buffer" due to potential farmer dropout). Yield information was to be collected at baseline and postline only, so there was no updated data at the time of the evaluation. The pod counting survey was conducted as part of the CR project using a stratified random sample of 400 (200 farmers in North Luwu and 200 farmers in North Kolaka) first in March 2016 and again in March 2017. Yield estimates from the pod counting survey showed an increase in cocoa pods among participating farmers from 471 kg/ha/year to 932.6 kg/ha/year (98%) in North Luwu and 328.7 kg/ha/year to 1,119.7 kg/ha/year (240%) in North Kolaka in one year. These figures were reported by the project management as interim figures that would be followed up by the findings from the sample monitoring survey; however, the ET also discovered that the sample of farmers selected for the 2017 survey was not a random but purposive selection of more successful farmers which may explain the incredibly high increases.

For both GP-SCPP and CR, it is important to note that the methods used to report on yields are not validated, and results are subjective and should not be considered representative. For SCPP, the increase in yield is projected, and not actual. For CR, an increase in pods does not necessarily equal an increase in yields, as pod counting is a forecasting measure. Not all pods are likely to mature to bear fruit, and pod maturity is dependent on climate (rain and dry seasonality) and soil composition. Thus, pod-counting is not an accurate determinant of actual yield.

Regarding income, the EQSI LLA survey of 426 farmers showed that most respondents received income between IDR 1–2 million per month; the GP-SCPP LLA shows that the average income per month was IDR 1–3 million for 60% of the farmers, 30% make less than a million IDR and 10% make more than IDR 3 million. The ET sought to identify any existing and updated data on reported farmer income from cocoa during the project. The ET discovered that GP-SCPP initiated a postline study and measured the number of farmers who reported that their income increased by at least 75% over the period between the baseline and postline. This included 8,714 farmers reporting an increase in income in 2015, 17,000 in 2016, and 35,160 in 2017. It is important to note that this study was conducted by the grantee and did not seek income estimates in dollar amounts. Rather, this data was farmer-reported about perceptions or actual

³⁶ Based on interviews, traceable sales, and logbooks, divided by the farm size (ha) as per farm interview, farm assessment, land certificate, or polygon measurement.

increases to income. CR is measuring income by comparing baseline and follow-up sample monitoring surveys, the findings of which (through the postline) are not available yet. EQSI conducted a baseline study involving 8,118 farming households that included data collected on yields and farmer income. However, at the time of the PE, the postline study had not been conducted, so the team was not able to obtain information on changes to yields and income of farmers associated with the project since the baseline. The examples of GP-SCPP and CR regarding income are similar to those regarding yield: while their figures are being reported to show progress, the calculations are subjective and not representative. Further, farmers are not asked to record their income from cocoa alone, and the sample selection of the SCPP farmers is not verified.

During the PE, the ET also discovered information regarding farmers' perceptions of income changes. As part of the mini-survey, the evaluation team asked farmers whether they perceived their income from cocoa had increased since they participated in the programs. CR and GP-SCPP farmers reported more favorable income outcomes, with 74% of CR farmers and 59% of GP-SCPP farmers noting that their income has increased during the project; however, only 12% of EQSI farmers who responded felt that their income had increased during the project. From the FGDs, 50% of GP-SCPP FGDs, 33% of CR FGDs and 25% of EQSI FGDs included farmers who stated that there has been no increase in income because of declining price and yields. To increase their income, many households had turned to mixed crop systems and were supplementing their income from cocoa with income from other crops. Farmers in 75% of GP-SCPP FGDs and 50% of EQSI FGDs stated that mixed cropping benefits income and is complementary because farmers can harvest more regularly and have "in-between" pay. This mixed cropping benefit was echoed by KIIs for each grantee. Mini-survey results showed that combining cocoa with other crops is a strategy used by farmers to maximize land and income, with the highest number of EQSI farmers responding (93%) combining their cocoa crop with three or more crops, followed by 72% of GP-SCPP farmers and 53% of responding CR farmers. Farmers were more likely to select a cash crop for integration, except for GP-SCPP respondent farmers, where fruit trees were reported as preferable, and to a lesser extent a short-season crop. Almost none of the farmers reported combining cocoa with wood trees. Mixed crop systems were also evident during farm observations for all grantees, where cocoa trees were planted alongside with fruit trees, vegetables, and spices.

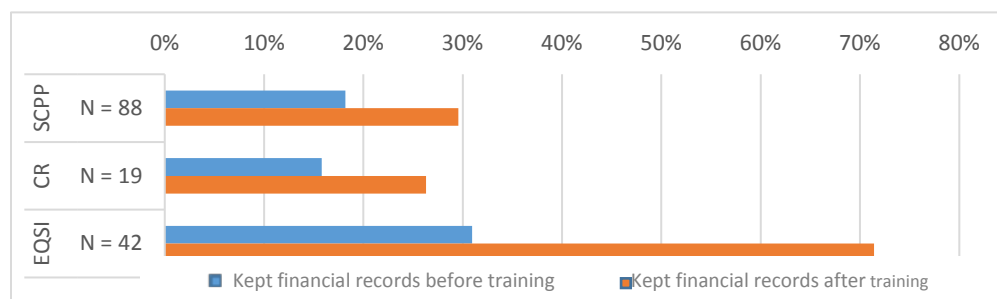
In general, the ET found that change in income is not verifiable at this stage in all three grants. It is not possible to disaggregate income from cocoa from income from other sources, and as noted above, most farmers are not solely farming cocoa. Thus, it is not possible to estimate the effect of the project on farmer's incomes at this stage.

What are perceptions in and documented changes to management/financial practices, and what are enabling and constraining factors?

Improving financial management is key for cocoa farmers to enable them to manage their income from farming and possibly borrow funds to make the necessary investments in their cocoa farm required to achieve sustainable intensification and ultimately higher yields and income. With this in mind, the grantees provide training for farmers in financial management and access to financial services.

The focus of this Good Financial Management Practices (GFP) training for the three grants is on financial planning to increase the availability of funds for investment and recording costs, receipts, and income. Figure 6 shows changes in mini-survey participants behavior before and after training in relation to recording the costs and income related to their cocoa production, which increased modestly for GP-SCPP and CR and increased considerably more for EQSI participants.

Figure 6: Farmers who kept records associated with their cocoa farming before and after training



Farmers' perceived benefits of GFP were mixed. EQSI respondents were positive about the support from the program for improved financial management. Farmers in 75% of EQSI FGDs stated that financial literacy is key for farm management. However, some farmers in FGDs reported having trouble adopting the practices learned from this course. GP-SCPP FGD respondents said that farmers don't see recordkeeping as a priority, and at one EQSI FGD, farmers who had not yet had the GFP training but heard about the recordkeeping aspects seemed confused and reluctant to take this course due to a perception that it would be "too complicated and time consuming." At another EQSI FGD, farmers lamented the poor state of their cocoa businesses and said that it was only after they learned to record their costs and income that they realized they were operating at a loss. For CR, KIIs with staff noted that farmers were given logbooks as part of completing the GFP training module to record activity and productivity, but mainly to record receipts. While farmers were encouraged to use the logbook every time they started a demonstration plot or other activity, it was noted that it was not possible to discern whether farmers were actually utilizing this logbook. CR staff in KIIs felt that farmers were not using the books because of a reluctance from older farmers to adopt to new ways of doing business; indeed, there was no mention of using logbooks from farmers in the CR FGDs.

Financial Services

Another aspect of support relates to improving access to financial services. The findings from the KIIs and FGDs with farmers are that farmers have various avenues to access financial services such as loans including donor programs (e.g., PNPM), loan sharks, traders, Gapoktan (farmer groups), subsidized credit from the Government (KUR), and the village enterprise agency (BumDes). However, several respondents identified impediments to farmers accessing financial services. One GP-SCPP KII stated that farmers' customary land titles (*Tanah Ulayat* or *Pusako*) prevented them from accessing loans, as they do not possess the necessary collateral. At one CR and one GP-SCPP FGD, farmers stated that in a situation where their yields and income are not high, farmers are disinclined to risk borrowing money. EQSI reports also provided other reasons about why farmers are not accessing financial services, including the fact that banks are located in district centers far from their homes and the low reach and capacity of microfinance

institutions.³⁷ The PE field research also found that some farmers are interested in accessing more financial services than they currently do. One GP-SCPP KII and one FGD and one EQSI FGD stated that farmers wanted to be connected to banks to access loans. One quarter of the GP-SCPP FGDs stated that farmers were interested in the cooperative model through which farmers could access fertilizer and pay after harvest.

SCPP initiatives relating to linking farmers with financial services include a savings pilot, an access to finance pilot, partnerships between banks and farmer organizations, utilizing cocoa traders as branchless banking agents, identifying microinsurance products for farmers, and providing training on the cocoa sector to local financial institutions and other lenders. Investment in savings and credit schemes for farmers is paying off; for example, GP-SCPP reports indicated that initiating an Access to Financing pilot to open bank accounts increased the percentage of cocoa farmers with a formal savings account by 9% over 5 months. This makes the assumption that farmers are indeed able to save money and will increase their ability to afford fertilizer and other inputs. While there are currently 15 groups of 20 people involved, there are plans to scale up this initiative in 2018 to 1,000 people.

What are perceptions and documented changes to value chain integration, and what are enabling and constraining factors?

The ET found that while the program participants (consortium partner companies under GP-SCPP) and Olam/RA were following an approach of certifying farmers to achieve a “win-win” for farmers and companies, farmers met during the PE sometimes still sold their cocoa to local traders even when they were certified, mainly for reasons of convenience.

Certification and Quality

A key strategy for the GP-SCPP and CR programs included a system of certification of individual cocoa farmers. Under this system, third-party certification bodies such as UTZ and RA assess their cocoa farms against a range of production, social, and environmental standards. Farmers who pass the standards are then registered with a processing company (farmers can only be certified with one company) and are entitled to receive a premium for the cocoa they sell directly to the company, provided the cocoa they offer meets certain quality standards. Different premiums (bonuses) per kilogram of cocoa would be provided depending on how cocoa offered by farmers rates according to standards. This is true for both GP-SCPP and CR/Olam. There is an Indonesian national quality standard for export development by the National Standards Board for Indonesia (SNI) (see Annex 9)³⁸ However, some companies have their own variation on the standards according to their requirements; GP-SCPP refers to UTZ standards and CR refers to SAN standards. The logic behind the certification schemes is that they constitute a “win-win” arrangement for farmers and buyers. Farmers can receive additional income from the premium in addition to the market price, and it provides an alternative market chain to local traders who may pay a discount from the market price. Thus, cocoa buyers can access product of sufficient quality to meet their processing

³⁷ EQSI (2017), GP Cocoa Portfolio Quarterly Report 6.

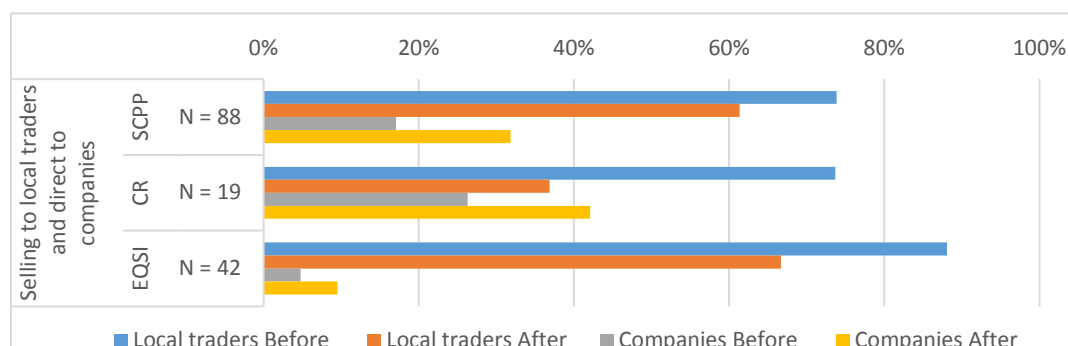
³⁸ <http://bdsknowledge.org/dyn/bds/docs/359/Value%20Chain%20Assessment%20Indonesia%20Cocoa.pdf>.

and/or on-sale needs.

GP-SCPP and RA/Olam facilitated the certification of farmers into sustainable certification schemes. EQSI did not include certification as part of its program. As of the September 2017 report (Q9), GP-SCPP had certified with third party certification schemes 12,557 farmers out of a Q9 target of 23,946 (52.4%). As of the June 2017 report (Q8), Olam had certified 6,000 farmers out of a target of 8,000 (75%). As mentioned under EQ1, GP-SCPP and CR utilized UTZ and SAN certification schemes respectively for determining quality standards, not the SNI.

During the PE, the ET found that there were modest increases in farmer-reported behavior toward selling directly to processing companies away from selling to local traders. Figure 7 shows that farmers participating in the mini-survey for all three grants were selling considerably more to local traders than to processing companies before the training. They reduced the amount they were selling to local traders and increased the amount they were selling to processing companies after participating in the training, except in the case of CR, where more farmers were selling to processing companies than local traders after participating in the training. The number of SCPP farmers selling to local traders decreased by 13% after the training and 15% of farmers increased their sales to companies. The number of CR farmers selling to local traders decreased by 37% after the training and 16% of farmers increased sales to companies. Lastly, the number of EQSI farmers reporting selling to local traders decreased 21% following the training but only 5% of farmers increased their sales to companies.

Figure 7: Mini-survey findings regarding farmers selling to local traders and companies



However, qualitative findings from the FGDs and KIIs revealed that many farmers were still selling to local traders even when they were certified. Farmers gave reasons why they did not sell direct to companies, including the low volume of the product they were selling (25% of GP-SCPP FGDs and 75% of CR FGDs), the distance from their home to the buying station and the opening hours of the buying station (25% of GP-SCPP FGDs), and the long time period (1 hour) that it takes to do the quality assessments when their wives are waiting for the cash at the market. KIIs for all of the grantees confirmed these reasons. Farmers indicated that selling to local traders may be part of a low-yield/output behavior pattern: because income and yields were low due to adverse weather conditions and a low price, it was not worth farmers' time to invest in sorting cocoa and travelling into town to the processing companies. Respondents also indicated that participating in certified supply chains worked better for wealthier farmers. One CR KII stated that if farmers have a large volume, they can go directly to the Mars warehouse, and one GP-SCPP KII stated that

certification premiums are beneficial for farmers who are productive and have more than four hectares of land.

Considering the finding that many certified farmers are still selling to local traders, it was not surprising that the evaluation team also found that companies were struggling to obtain sufficient levels of supply, causing turf battles between companies for farmers and even instances of double certification. Interviews with two SCPP private sector partners noted that it was a major challenge for their company to obtain enough certified cocoa to meet targets. According to CR's Q7 report (January–March 2017), while CR had facilitated the certification of 6,000 farmers, the number of farmers who had sold their cocoa to Olam was 915 farmers, or 15 percent, and an Olam KII stated that "...unfortunately we cannot make farmers sell to us." Two GP-SCPP private sector KIIs stated that competition is very aggressive between companies because the private sector needs beans. One CR KII stated that Mars had a practice of buying wet beans from farmers in an area designated as a Cargill area. At the commencement of GP-SCPP implementation there was overlapping of working areas between the two MCA-I program implementing organizations (GP-SCPP/Mars and OLAM/Rain Forest Alliance) in North Luwu and North Kolaka, and this had to be negotiated. One GP-SCPP KII stated that a case of double certification of farmers had been discovered and that it was challenging to coordinate among the different stakeholders, especially when their overlapping district operational areas can cause conflict.

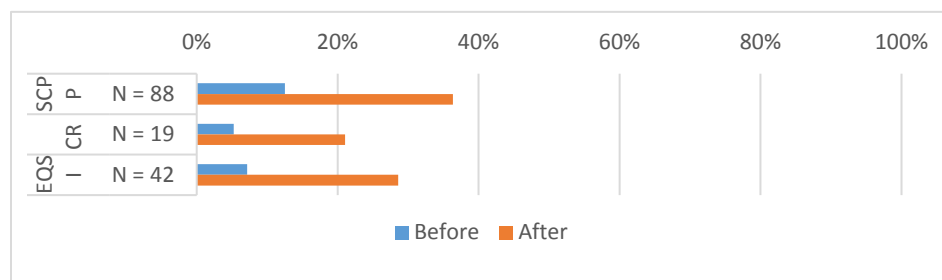
Site observations

Direct observation with buying stations showed that 100% of those visited for both CR (n=2) and GP-SCPP (n=4) bought non-certified beans and had good storage facilities. While both of the CR buying stations visited had tools for bean counting, scales and tools for moisture and mold measurement, and performed a test for cutting beans, only half of the GP-SCPP buying stations had the same tools for cutting and counting, and only 25% of the GP-SCPP buying stations had tools for measuring moisture and mold. While both CR sites visited separated certified and non-certified beans, only half of the GP-SCPP sites visited had a price difference offered to the farmer. None of the CR buying sites accepted low quality beans, but one of the GP-SCPP sites did, and while both CR sites provided receipts to farmers, one of the GP-SCPP sites did not provide receipts.

What are perceptions and documented changes to product quality, and what are enabling and constraining factors?

As explained in the above section, improvement in bean quality is an expected outcome of certification with established cocoa buyers. There are two main indicators for measuring product quality: sorting beans and length of time spent drying cocoa. Sorting beans is an indicator of quality improvements, as it shows that farmers are selecting cocoa that meets quality standards to sell. Mini-survey results in Figure 8 show that more than twice as many farmers in all three grants are sorting their beans more now than prior to the training, although the change was from a very small percentage of farmers to a percentage of farmers that is still well under 50 percent on all grants. This finding matches the finding in the above Figure 7 that more farmers were selling to processing companies after compared to before the training, as processing companies favor sorted, better quality beans.

Figure 8: Farmers sorting beans before and after training



Through the qualitative research, there were some positive responses regarding improvements in quality, namely from GP-SCPP respondents. Five GP-SCPP KIIs said that Mars had noted improved product quality from certified buyers. However, GP-SCPP respondents in FGDs and other KIIs said that overall the quality of beans has been poor and that they do not feel this has changed.

Farmers stated that they still had challenges in improving the quality of the cocoa they sold despite the support from the grantees. Interviews with staff and farmers for CR and GP-SCPP said that farmers have learned about and now know what a quality bean looks like, but they are not inclined to improve the quality of their product because there is no financial reward for doing so when selling to local traders. As noted above, the majority of farmers interviewed in the PE are still selling to local traders. Half of the CR and EQSI FGDs and two SCPP FGD participants stated that they do not see the point in sorting beans because many farmers sell beans to local collectors who do not price differentiate based on quality. KIIs for both GP-SCPP and EQSI echoed that there is no market for high quality beans, so buyers accept everything and do not bother to sort their beans. The latter finding is striking given that the farmers have participated in programs aiming at linking them with direct sales to processing companies.

“Mars here buys our wet beans, which we found is very helpful because we do not have to dry the beans. The price of wet beans is also good. We used to dry our beans for days. The problem is when raining. It used to be difficult for us to get the beans dry and took time. Now, we just sell it directly after harvesting”

- CR Farmer, Banuwangi, Luwu Utara

More time taken to dry cocoa can be seen as putting effort into achieving better quality cocoa. Based on the mini-survey results, participating farmers spent between one and five days drying cocoa, with minimal difference in drying time before and after training. However, one Mars KII informed the PE that Mars is buying “wet” as well as dry beans. Wet beans are beans that are sold immediately after to up to one day after harvesting. The Mars KII informed the PE team that Mars is buying wet beans because the company is fermenting beans after buying them. This practice appeals to farmers, and CR KIIs stated that farmers sell wet beans because they need the money faster and don’t want to incur the additional labor hours and cost involved with drying cocoa. This gives Mars an edge in the competition among companies for beans because they can take beans off farmers’ hands without requiring them to put the effort into drying and do so quickly before other buyers arrive. The approach is controversial among other companies and the government, as there is a perception that Mars is attracting buyers away from other companies through this strategy. It is notable that 20% of EQSI farmers in the mini-survey reported drying cocoa for zero days after the training, compared to one or two days drying before. One CR KII stated that Mars was

tricking farmers into thinking they were obtaining a good price for their cocoa, when in fact they were losing money. More investigation is required to establish whether this is in fact the case. Moreover, the approach is controversial in light of the government's stipulation that Indonesian cocoa should be fermented **by farmers** in order to enable them to access higher prices from the value add. In opposition to this stipulation, stakeholders often argue that the market does not require Indonesian cocoa to be fermented. Nevertheless, Mars is fermenting Indonesian cocoa itself rather than having it done by farmers.

Another strategy adopted by CR to improve quality was the introduction of **solar dryers**. CR respondents explained the many potential advantages of solar dryers: they keep animals off, cut down drying time, reduce weight loss, and increase bean size and resistance to fungus. At the time of the PE in September 2017, the project had constructed 97 solar dryers, reaching 69% of the end-of-project (March 2018) target of 140. The other grantees did not introduce solar dryers. Farmers in a CR FGD in Luwu Utara stated that they appreciated the benefits of solar dryers. However, they do not currently have solar dryers: they would like to build their own dryer, but the material costs are too high as the plastic sheeting required must be imported. Locally available sheeting is not considered to be as watertight or durable and does not trap heat as well.

Fermentation

As explained in the literature review, the Central Government (Directorate General of Plantation Crops at the Ministry of Agriculture) has stipulated that all Indonesian cocoa should be fermented to give farmers the opportunity to obtain a higher price through value adding their cocoa. As a higher value project, fermented cocoa receives a higher price on the world market than unfermented cocoa, and, according to an MCA-I KII, because companies import fermented cocoa to process in Indonesia, the Government thinks that fermented cocoa should be sourced from Indonesia. However, KIIs with GP-SCPP, CR, and EQSI management staff revealed that currently there is still no market for fermented cocoa in Indonesia, as processors relying on fermented cocoa prefer to ferment it themselves (e.g., Mars) or import for processing (e.g. Cargill). Over a third of GP-SCPP and CR FGDs said that there is currently no difference in price but that if there were a different price or demand for fermented beans, farmers would be more motivated to ferment their beans.

GP-SCPP and CR did not focus on fermentation. Nevertheless, there was a small increase reported in the practice of fermentation among participants. The percentage of mini-survey participants on the GP-SCPP grant who were fermenting their cocoa increased from 22% to 31%. For CR, it increased from 0 to 5%.

EQSI has incorporated the Central Government's policy in collaboration with the Southeast Sulawesi Government (Department of Plantation Crops). The latter has been distributing fermentation boxes, and these have been integrated into the EQSI program. Direct observation of fermentation centers utilized under the EQSI project showed that 100% of centers had fermentation boxes on site or owned boxes nearby. Only one of the centers stated that all the beans they received were fermented, but both centers stated that beans are fermented for at least six days and receive a better price than unfermented beans. One EQSI FGD said that EQSI group members ferment as a group, and members of the group sell their wet beans to group leaders to ferment collectively, which was confirmed in one KII. Mini-survey data,

however, showed that EQSI participants dropped in terms of the percentage fermenting their cocoa from 17% to 12%.

For EQSI, the theory of change included fermenting cocoa for sale to a guaranteed buyer (KKI) and agroforestry to diversify income sources. KKI had an identified European buyer who agreed to purchase fermented cocoa at a premium price. On this basis, KKI agreed with EQSI that fermented cocoa would be purchased from farmers with a premium of Rp 5,000 on top of the market price for non-fermented cocoa. This was deemed viable in order to persuade farmers to invest time in fermentation. Unfortunately, however, KKI had technical difficulties with the equipment at their factory and was unable to open. Therefore, the proposed market chain did not move forward.

5.2.2 What are perceptions in and documented changes in access to supplies/land, markets, and knowledge?

This area of inquiry address only access to supplies and land. Access to markets is addressed under value chain integration, and access to knowledge is addressed under training efficacy.

What are perceptions and documented changes in access to land?

FGDs for GP-SCPP, CR, and EQSI shared that wealth and land size are inextricably linked. During FGDs with farmers on the GP-SCPP, CR, and EQSI programs, farmers stated that they planted multiple hectares of cocoa at a time when trees yielded more pods but now it was hard to maintain so many hectares. For this reason, many had converted or were planning on **converting** part (if not all) of their cocoa crop to other crops. **Access to labor** is also a factor, as FGDs with GP-SCPP, CR, and EQSI revealed that many children of farmers go to study in district towns or other urban locations and do not return to farming. Daily rates for paid laborers are expensive, and cocoa farming can be expensive because of the number of inputs required.

Overwhelmingly, KIIs for GP-SCPP, CR, and EQSI all stated that there is a problem of **land certification**, mainly due to cost and availability, for farmers, which makes formal land ownership difficult. Overall, KIIs and FGDs for GP-SCPP agreed that land is often owned by communities and large families according to **customary land ownership systems** with several problematic consequences. The government may attempt to buy land from the people to allocated to others who would like to invest in expanding their farm areas. Farmers can intercrop and plant more trees on existing land but are not permitted to cut down trees (*tanah ulayat*) to replant without the approval of both their family and the community. This makes it more difficult for farmers who wish to cut down other unproductive crops and replant cocoa or shade trees on their existing land without encroaching on new land. GP-SCPP KIIs also noted that lack of land tenure prevents farmers from accessing credit and finance. KIIs for EQSI found that farmers inherit land from their parents and that vulnerable farmers with less land are often integrated into farmer groups with fewer members.

Review of the most recent quarterly reports shows that GP-SCPP is the only project that has been actively engaging stakeholders in facilitating farmers to register their land with the National Land Agency (Badan Pertanahan Nasional/BPN) in Sulawesi, and the project is currently in the process of identifying farmers

in Kolaka and Kolaka Timur to apply for certification. The ET did not find any documented change to access in land throughout the project.

What are perceptions and documented changes in access to supplies and inputs?

The major focus of intensification across the theory of change for the GP Cocoa portfolio as well as for individual grantees stems from the belief that increased agricultural production should focus on high quality inputs to increase farm efficiency, limiting farmer's needs to expand or encroach on new land and thus reduce deforestation. Each of the GP cocoa grants emphasizes improved access to inputs, use of land and long term improved productivity and product quality. The grants all focused on the twin goals of enhancing farmers' access to the inputs they needed and reducing the harm from chemicals through safe handling and minimization through combining with organic approaches.

Access to supplies and inputs

Regarding enhancing access to supplies/inputs, each grant had different emphases. GP-SCPP focused on ensuring sustainable access to inputs on a commercial basis. Up to March 2017, GP-SCPP supported 482 micro, small and medium enterprises (MSMEs), farmer organizations, and/or Centers of Excellence and strengthened and facilitated four Business Development Service Providers (BDSPs) to provide services to farmers, farmer organizations, and MSMEs. GP-SCPP also focused on the strategic use of chemical inputs in combination with organic materials recycled from the farm. For example, a Cocoa Doctor KII stated that he sold cocoa-specific fertilizer based on soil testing, and, if applied in the right dosage, it could be cheaper than the government-subsidized fertilizer.

Olam formally distributed agro-inputs in the form of a non-cash incentive payment and included fertilizer, seedlings, and Personal Protective Equipment (hats, gloves and eye protection) as well as t-shirts. While originally delayed due to procurement administration issues, as of June 2017, 6,000 out of 8,000 farmers received an incentive based on the improvement of quality of beans (target 8,000=75%). The CR project also developed a fertilizer based on soil analysis in specific regions in collaboration with the Indonesia Coffee and Cocoa Research Institute (ICCRI). EQSI farmers were also to be receiving incentives for i) improved quality and ii) fermented beans, but the total number to date has not been reported to the evaluation team and is not in the most recent quarterly report. EQSI also focused on supporting farmers in developing biological/organic-based inputs and worked with LEMS to make fertilizer available, including via loans to be paid back at harvest.

Supply Availability, Application and Use

Grantee data on actual change in pesticide, herbicide, and fertilizer use by farmers as a result of participating in the programs was not available from the grantees at the time of the evaluation. Data from the PE mini-survey showed that current fertilizer, pesticides, and herbicides are used by over 60% of farmers (except for access to pesticides by CR participants), showing a reasonably high level of access to agro-chemicals. Unfortunately, the data provided does not show quantities or frequency of the use of the

inputs—this information would give a more detailed picture of access to inputs and correct dosages being carried out. The mini-survey respondents reported a slight increase in fertilizer use among GP-SCPP beneficiaries but a decrease in fertilizer use among CR and EQSI participants over the duration of the grants. The purchasing of chemical fertilizer among CR respondents decreased by 11 percentage points (from 79% to 68%) after the training. For EQSI respondents, it decreased by 31 percentage points (from 93% to 62%), and it increased by 6 percentage points among GP-SCPP participants. The purchasing of organic fertilizer increased by 42 percentage points (from 21% to 63%) among CR participants, decreased by 7 percentage points (from 43% to 36%) among EQSI participants, and increased by 4 percentage points (from 37% to 41%) among GP-SCPP participants. The mini-survey respondents also showed a farmer increase in the use of pesticides, except for EQSI participants, who decreased in their use of pesticides after the training. Respondents under all grants decreased in the use of herbicide, which is notable as the use of herbicide was discouraged by the grantees (manual weeding or “leaving” the weeds was preferred).

“In Mars CDC we provide a specialized cocoa fertilizer, nitrabor (urea) pos grow, kcal and dolomite. Per unit they are pricey but actually if farmers use them according to our recommended dose, these can be cheaper. Before selling to farmers, we need to have the soil tested first and issue a recommended dose and only then can we sell to farmers”

- KII, GP-SCPP Collector

On the other hand, farmers reported an increase in their use of organic/biological agro-inputs, which was encouraged in training to improve soil quality and reduce environmental pollution. It is notable that the use of these natural inputs is at a lower level than the use of chemicals, but they substantially increased in all cases. This may be an encouraging sign that the grants have had an effect on encouraging the use of natural and organic techniques for productivity enhancement and crop protection. Regarding EQSI, while beneficiaries’ use of chemical pesticides decreased, their use of bio-pesticide increased, which is notable in light of the focus on their GAP/GEP curriculum on farmers’ making of bio-pesticides.

KIIs and FGDs mentioned three issues about fertilizer: **access, quality, and dosage**. KII interviews across all grantees revealed that farmers continue to have difficulty in accessing agro-inputs, particularly fertilizer. The Government supplies a limited amount of fertilizer at a subsidized price. This fertilizer is actually designed for food crops but is still used by cocoa farmers due to its lower price relative to purely commercially priced fertilizer. According to two GP-SCPP KIIs, it retails at about Rp 100,000, and other fertilizer costs about four times that price; 37.5% of GP-SCPP FGDs stated that this year, supplies of the subsidized fertilizer had been limited, and 25% of GP-SCPP FGDs stated that farmers often apply subsidized fertilizer, but in less than the required amount because they cannot afford to buy more. GP-SCPP KIIs echoed these sentiments. One GP-SCPP KII stated that every year the district gets an allocation of fertilizer from the central government but this year it has only met 30% of farmers’ needs. According to GP-SCPP farmers and informants, supplying fertilizer for cocoa farmers is not a priority for the Government, as their focus is on the five key commodities targeted for self-sufficiency, and cocoa is not one of these priorities. Government KIIs mentioned that neither regional nor central government agencies were in a financial position to provide fertilizer to farmers.

Another concern is that the subsidized fertilizer from the government is not actually suited to cocoa. Two GP-SCPP KIIs, one CR KII, and one CR FGD stated that the government’s subsidized fertilizer has

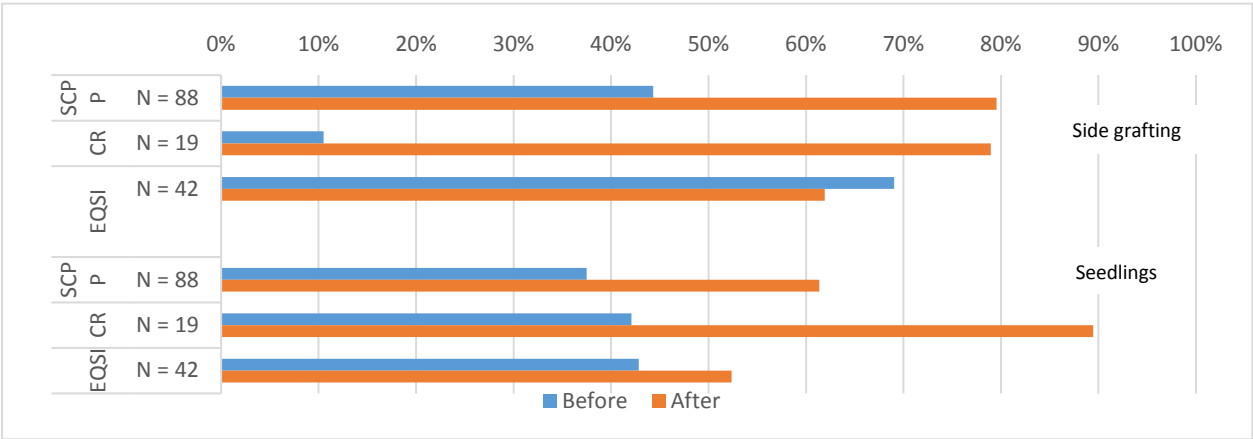
ammonium in it, which makes the soil more acidic. The CSP has been facilitating a process, spearheaded by Mars, to develop a cocoa-specific fertilizer. According to GP-SCPP and CR KIIs, all CSP members have been working together to develop a mutually agreed upon formula, a process which has taken some time for negotiations. A formula has now been agreed upon, and three GP-SCPP KIIs stated that the Mars cocoa fertilizer will be sold at the CDCs. During the KIIs, prices of the non-subsidized fertilizer were quoted at two to four times the price of the subsidized fertilizer. However, according to a Mars KII, the specialized cocoa fertilizer can be cheaper if applied at the right dosage.

Planting Material

Cocoa trees have a limited life span, and at some point, they need to be replaced. Initially side grafting new stock can extend the lifespan of the tree, giving the benefit of the new genetics, but eventually the trees must be replaced by planting new seedlings and side or top grafting new budwood for rehabilitation. Farmers are encouraged not only to plant or replant cocoa seedlings using nurseries but to also plant shade trees on their cocoa farms to provide a protective tree cover. As of Q9 (Sept 2017), under the GP program, GP-SCPP had established nurseries covering a total of 36,914 square meters in 12 districts, with a capacity to produce over 1.7 million clonal seedlings per year which is 83% of the target. CR is 79% of the way towards reaching its target of 63 nurseries and EQSI had reached 100% of its target of 20 nurseries by January 2017 (Q4).

Figure 9 shows mini-survey respondents’ access to and use of new genetic planting material across the three grants. For GP-SCPP and CR, there was a considerable increase in rehabilitation activities over the duration of the projects. The access to clones (different varieties of cocoa seedlings) from the government and purchase of clones was around 20%, with little change occurring because of the project.

Figure 9: Farmers who are utilizing side grafting and seedlings before and after training



Farmers often shared seedlings of different clones with one another to determine which would be most compatible on their farms. CR farmer access to clones from the government was higher and did not change markedly before and after the program, but CR farmers’ purchase of clones increased over the duration of the project. EQSI mini-survey respondents stated that access to clones from the government and purchasing of new clones actually dropped during the project. GP-SCPP and Mars collaborated in establishing Cocoa Development Centers (CDCs) in Luwu, North Luwu, and North Kolaka of South

Sulawesi. Farmers can use planting materials from CDCs to establish Cocoa Village Clinics—local nurseries that help with the commercial distribution of cocoa plants, providing an additional source of cocoa learning materials and income, as well as creating local jobs. One GP-SCPP KII stated that in the Mars cluster of four districts there are 42 seedling sellers, and the GP-SCPP Quarter 7 report notes that Mars provides training and incentives for establishing seedling businesses.

Focus group respondents stated that, despite participating in the grantees' programs, they were not able to access seedlings in sufficient supply and that planting materials were often unavailable. Two GP-SCPP FGDs said that their trees were old and non-productive, and farmers in their areas who could afford to replant had replanted already, but others were still waiting until they had accumulated enough capital. Farmers in one GP-SCPP FGD said that they had been provided seedlings by GP-SCPP but they had been unable to keep them alive. Seedlings often died due to lack of maintenance, climate or soil incompatibility.

Farmers in two GP-SCPP FGDs mentioned that the loss of income that is incurred while the seedlings are still young is a challenge for them. In some locations, even though productivity was low, cocoa was still providing consistent (albeit small) income for daily needs. GP-SCPP has initiated a pilot on replanting finance, in conjunction with Badan Layanan Umum (BLU) (a public service agency) and funding from the Ministry of Forestry. The issue of how to manage periods of replanting through measures such as mixed systems and finance requires further investigation.

Contextual factors affecting supply/ use of inputs

The ET found that there are several contextual factors affecting farmers' capacity to rehabilitate their farms. One was a recent government regulation that only varieties certified by ICCRI and Hasfam/LEDONG can be distributed and sold, and, to sell seedlings, a license was required that costs Rp 8,000,000 (one GP-SCPP KII). The same GP-SCPP informant noted that seed stock that is to be certified includes the lower trunk *batang bawa*, but the upper stem *batang atas* can be modified and sold more freely. One EQSI FGD stated that farmers get improved seedlings from other successful farmers but these are not certified.

According to two GP-SCPP KIIs, the government distributes seedlings to farmers but has not distributed them widely. The Kolaka Timur District Government has recently distributed seedlings to 200 farmers, but it is unclear whether this is a one-time occurrence or if they have plans to distribute more. The Konawe Government has pledged to provide free seedlings for up to 170 hectares of small-scale cocoa plantations. According to one GP-SCPP KII, the government's distribution of free planting material has the effect of dampening farmer appetite for purchasing planting material, because it puts downward pressure on their prices. Two seedling sellers informed the ET that sales are low this year compared to previous years. Also, the government tends to procure seedlings but often ends up with poor quality seedlings and it was noted that the distribution of poor planting material may have negative effects on productivity. According to one KII in Kolaka Timur, GP-SCPP has played a role in persuading the government to procure seedlings from local rather than Java-based farmers, which tend to be more compatible with soil in other regions.

5.2.3 What methods are used to verify and document the number of participants trained, number of hectares of sustainable product, fertilizer use, and farm yields?

GP-SCPP, CR, and EQSI KIIs and FGDs noted that field facilitators are responsible for collecting farmer demographic information such as training attendance sheets, which record farmers, by sex and age, attending trainings, as well as farmer farm profiles, which track farm locations, numbers of trees, and inputs used. Facilitators also perform observational assessments during follow up, where they review sales receipts and look at farm upkeep. Sales receipts contain information on weight, waste content, and price received for beans sold at buying stations. However, each grantee had its own systems in place for collecting routine data used for monitoring and reporting.

For **GP-SCPP**, the online information management system CocoaTrace tracks number of trees, fertilizer used, and yields, which are measured through baseline (every farmer) and a postline two years later (sample, 30%) (three GP-SCPP KIIs). Recently, this system was outsourced to the company Koltiva, an information technology and software consulting firm created solely to support the longevity of SCPP programming. The CocoaTrace baseline and postline surveys include four modules: the Farm Module, the Environment Module, the Finance Module, and the Nutrition module. GIS coordinates for farmers are also recorded at the time of data collection. The information is stored in the online database and provides the basis for the monitoring of outputs and outcomes. GP-SCPP quarterly reports note that over the duration of implementation, data collection shifted from paper-based to IT-based, and Koltiva developed new questionnaire apps that are more user friendly and compatible with smartphones and location recording. GP-SCPP KIIs reported that moving forward, consortium partners will use the CocoaTrace surveys and data management system for their certification audits, which are conducted annually. The audits will be administered by Koltiva, who will be paid for by the companies, and farmers are encouraged to keep receipts of sale so they can record information about their cocoa (weight, waste content, price).

CR KIIs noted that the Olam Farmer Information System (OFIS) is an online system used to identify farmer statistics and is accessible by field staff through a smartphone application. Lead farmers and field facilitators download the app and use it to collect GPS coordinates and baseline information so they can track progress. OFIS is owned by Olam and accessible by the CR private sector partners. The ET reviewed the paper and electronic versions of Cocoa Revolution's five outcomes monitoring instruments:

- Baseline that looks at soil use, fertilizer application, composting, calculation of carbon sequestration (observations and questions) and follow-up monitoring, which grades participants based on their adoption of GAP (with a score of A, B, C, or D) and provides different incentives based on their grading (three CR KIIs);
- Verification monitoring for seedling distribution, which monitors cocoa and shade tree seedlings' survival once they are distributed to farmers;
- Pod counting survey, which monitors the size, number, and health of pods on a selection of trees on a selection of farms;
- Adoption survey from a sample of 400 farmers (200 in North Luwu and 200 in North Kolaka), selected randomly from OFIS involving an interview and farm observation by trained enumerators, which looks

at GAP, GBP, SAN, CSA, farm management systems, pest and disease management, chemical handling, soil management, energy use, revenue and production, and perception and spillover effects to other farmers; and

- Cost-benefit analysis of a sample of best performing farmers; that is, those that have simultaneously obtained a high Olam Scorecard grade and a high average yield for the last two years, as assessed through Olam's quarterly pod-counting surveys (these farmers represent the "potential" to which other farmers should aim and from which other farmers could learn).

One CR KII stated that CR utilizes independent consultants for baseline and postline data collection. In addition, the certification process is comprised of two types of inspection: internal, managed by the group and including every farm, and external, undertaken by a qualified auditor from an accredited certification body who inspects a sample of farms. The audit was conducted in the most recent Q8 (June 2017), the earliest time that an auditor was available.

EQSI conducted a detailed and extensive baseline survey on 426 respondents in 2016. However, at the time of the PE, postline data had not been collected. Monitoring data was collected on select project outputs only as indicated under EQ 1 and shared with the ET through quarterly reports. EQSI KIIs state that verification of the adoption of GAP and associated benefits is gathered at the demonstration plot level or with lead farmers or field facilitators, rather than at the farmer level. Both EQSI management and field staff stated that field facilitators are reliant on lead farmers to provide monitoring data monthly during field visits, and the lead farmer has prime responsibility to follow up on farmers after they have been trained. Thus, real-time farmer data is reliant on the capability of the lead farmers to regularly monitor and respond to farmer concerns. If there are any specific concerns, the lead farmer identifies such to the EQSI facilitator, and the facilitators then follow up on those individual farmers with a checklist for observation or to answer any questions the farmer has after training. EQSI field staff noted that after the visits, these checklists and observational assessments are shared with regional management, but they did not appear to be used for routine monitoring, only for compilation of demographic information and to ensure field facilitators were in compliance with project requirements. While the ET asked for copies of this checklist, they were informed by project staff that it is an informal process and not a formalized tool to be distributed or shared with the ET. However, the ET was informed that monitoring was conducted by the lead farmer after training for six months; during this period, lead farmers visit trained farmers' land plots, provide mentoring and support, and identify any struggling farmers to EQSI project staff, who will then visit farms to assess farmer progress and monitor other project activities.

5.2.4 What challenges or limitations exist in timely verification/documentation, validity, and confounding factors for monitoring data?

For GP-SCPP there were several challenges in data collection through the CocoaTrace system, as reported in the GP-SCPP Quarters 4–7 reports. Over the period of implementation of the program there was a shift from paper-based to IT-based collection methods. This caused delays in the recording of programming information. There were some technical problems in the use of the tablets leading to failure of data entry on some occasions. Field facilitators' collection of baseline data was slow, as it conflicted with their other duties. The ET's interview with Koltiva showed that the issue of overlapping responsibilities by field

facilitators for training, mentoring, and data collection should be addressed by the shifting of data collection functions to Koltiva. However, now Koltiva have the additional challenge of developing an instrument that is able to incorporate the certification requirements of the consortium partners. Moreover, there are still capacity challenges with staff, pertaining to their ability to reliably collect data as well as challenges with technology relating to unreliable internet connections and systems bugs leading to potential loss of data.

CR KIIs noted that there were challenges in accurately recording project M&E data. One respondent noted that the current OFIS database only provides farmer profile (demographic) information (sex, age, farm size) which won't contribute to real time information on yields and practices. Another mentioned that getting tangible data is difficult because it needs to be collected and analyzed by someone who knows the cocoa crop and that not all staff have this intimate knowledge. Another staff member noted that the OFIS system works well in theory but that the app must be downloaded by the field staff, not all of whom have smartphones. Additionally, there can be a loss of signal in remote areas, making it difficult to access mobile data from very rural farms. Often there is a duplicity of data that has been entered multiple times and does not appear to be uploading. These technical challenges delayed the second phase of the baseline due to incomplete data collected under OFIS.

EQSI did not experience any specific difficulties in collecting outputs data. A full report on postline will be available at the end of the project. However, it is noteworthy that EQSI is the only project that relies on lead farmers as data collectors. In light of prior comments regarding field facilitators' limited capacity, utilization of lead farmers can be useful but is not necessarily sustainable. As one EQSI KII noted, there are many groups in each village, and there are simply not enough field facilitators to go around. This reliance on lead farmers will require further follow up to gauge the level, timeliness, and quality of data being collected and analyzed.

General constraints to monitoring data for all grantees

Across all three grants, KIIs and FGDs found that farmers do not regularly track their individual farming data, including yields, amount of fertilizer used or purchased, and sales. Some farmers keep receipts to show the price received for their cocoa, but this depends on the buyer, as not all provide receipts. Most farmers relied on memory when sharing farm data information with the ET. This makes the documentation and verification of key project indicators difficult.

Within grantees, while each grantee had an M&E plan for their grant, the target figures for indicators in the M&E plan often differed from those in quarterly reports. GP-SCPP revised its indicator targets to extend to 2020 instead of through 2018, but some documentation still referred to outdated targets. GP-SCPP is also the only grantee that actively tracked the number of beneficiaries prior to receiving GP funding in 2015. While this was useful, it affected the accuracy of the targets when defining progress made solely under the GP grant (post-2015). Each grantee recorded and monitored indicators and progress differently: some recorded numerical counts, while others recorded percentages. Units of measurement also differed: for example, GP-SCPP is the only grantee whose M&E system recorded square meters rather than actual numbers of nurseries established. Only GP-SCPP and EQSI were actively disaggregating data by gender for multiple indicators. Quarterly reports for EQSI and CR included tabulations for figures to

which there was no identified target or actual figure calculated. Lastly, GP-SCPP measures progress toward several indicators at baseline and postline only, so there were several key project indicators including percentage of farmers composting and fertilizer use that were not calculated or available at the time of the evaluation. The ET was also unable to get updated figures from EQSI for several indicators because “training was ongoing,” and this data had not yet been compiled.

5.2.5. Greenhouse gas emission considerations

Under the Green Prosperity portfolio, each of the three Cocoa grantees has the reduction of GHGs as a long-term outcome of its grant activities. For the purpose of this evaluation, the team sought to gauge the progress to date in reaching short and medium-term outcomes through review of quantitative data produced for quarterly reports, and qualitative data gathered from in-person observations from direct farm visits to identify the progress in reaching key outcomes that could have the potential to reduce GHGs over the long term. It is noted in the evaluation design that the evaluation team encourages the second phase of data collection to occur in two years to collect data related to long term outcomes toward reducing GHG gathered after the project ends, namely because grantees have not been provided with standardized GHG reduction indicators and are not actively collecting this data throughout project monitoring. CR, whose baseline focused on biophysical setups of farms to determine long-term impact on climate mitigation and carbon footprints, only collects this data at postline, as does GP-SCPP. Key areas targeted for informing potential GHG reduction are fertilizer use, number of hectares managed using good agricultural/environmental practices, and number of trees planted (cocoa tree seedlings and shade tree seedlings).

Table 15: GHG indicator achievement progress

	GP-SCPP			CR			EQSI		
Project outputs (short-term)	Target	Actual	% Achieved (end Sept 2017 Q9)	Target	Actual	% Achieved (end June 2017 Q8)	Target	Actual	% Achieved (end Sep 2017 Q7)
Kg fertilizer used/distributed per year	300	-	Measured at postline	-	-	-	-	-	-
# of hectares planted/managed using GAP/GEP	85,871	47,676	55.5%	-	8,410	-	17,500	5,072	29.98%
Cocoa seedling distribution	1,445,000	-	Measured at postline	504,000	369,254	73.3%	7,000	-	0
Shade tree seedling distribution	-	-	Measured at postline	126,000	91,427	72.6%	-	-	-

None of the grantees were able to provide information on fertilizer distributed or dosage applied at the farm level. During direct observation, both EQSI farms visited had applied both chemical and organic fertilizers regularly and had produced their own fertilizer (composting). About half of the farmers in all grants knew the correct fertilizer dosage they should be using. All the GP-SCPP farms visited were applying chemical fertilizer, and 63% applied organic fertilizer as well. Half of the CR farms used chemical fertilizer, and none of the CR farms visited were practicing composting. All the CR and EQSI farms and all but two of the GP-SCPP farms visited had shade trees planted. For cocoa trees, clonal varieties and replanted new or

improved seedlings were visible at both CR farms, all but one of the GP-SCPP farms, and one of the EQSI farms. In the mini-survey given to farmers following the focus group discussions, respondents from all three grants, including one quarter of responding GP-SCPP and CR farmers, reported no longer planting shade trees, but 24% of GP-SCPP farmers and 47% of CR farmers said they were now planting cocoa seedlings when they had not before training.

The third-party evaluator, ICF, found that EQSI reported distributing over five million shade tree seedlings, but the Cocoa PE ET received no data on this output at the time of the evaluation. ICF was also awaiting confirmation at the time of the evaluation of the exact number of kilograms of fertilizer used and distributed per hectare per year for each grantee. For GP-SCPP cocoa seedling distribution, ICF found over 20 million seedlings distributed and over 10 million shade tree seedlings distributed. This information was not provided to the Cocoa PE ET, as evidenced in the table above, and, if accurate, exceeds the intended target for cocoa seedling distribution by 142. It is important to note the ambiguity of the indicator of seedling distribution and what it means for long-term progress. The distribution of seedlings does not necessarily equate to trees planted and thriving, as it is understood that a proportion (often significant) of seedlings die before or after being planted due to soil irregularities, compatibility, or lack of maintenance.

From what the ET could collect for CR, the grantee is on target to achieve the targets related to the simplified, specific GHG reduction indicators above, with progress over 70% in their last quarterly reporting. EQSI is about one-third of the way toward meeting its targeted numbers of hectares planted using GAP, has not documented progress in cocoa seedling distribution, and has noted a plan to initiate an “air seedlings” program before the end of 2017 to widely distribute shade tree seedlings using helicopters as part of its reforestation initiatives. GP-SCPP is halfway to meeting its target for hectares planted using GAP. It is not possible for the ET to make additional reports on progress toward GHG at this stage in the evaluation, due to the discrepancy in accurate figures, missing target or actual figures, and the need for data that will not be collected until the end of the project.

Conclusions: Evaluation Question 2

- TOC progress was mixed among the grants. GP-SCPP achieved solid progress against training targets and good outcomes in leveraging investment by international cocoa companies, primarily in the context of third-party certification schemes. However, at the time of the evaluation, there were still challenges to creating sustainable input markets and extension services. Cocoa Revolution achieved good outcomes in developing and demonstrating innovations (local fertilizer, solar dryers, CSA techniques), but there was a short timeframe to achieve uptake and for Olam to obtain sufficient product to facilitate ongoing investments in the innovations. EQSI achieved some outcomes in capacity building for farmers and tree planting, but the fermented market chain did not move forward due to technical problems at the processing plant.
- Conclusions regarding yields and income are tentative or anecdotal at best, as farmer-reported information is all that is available and is limited by farmer recall and lack of recordkeeping, and grantees will not be able to provide actual data until postline results are produced. Further, the ET cannot validate data sources and collection methods used by grantees and recognizes the

limitations in these sources. It is clear that cocoa income is uncertain, and thus farmers do not rely on the insecurity of a single-crop farm.

- Indicators such as number of seedlings distributed and number of pods on trees are misleading to determine progress, as these figures do not equate to fully mature or fruitful trees. Maturation of these entities is necessary to determine actual progress, and this cannot be measured in a short time period.
- Farmers have access to financial services but often lack collateral needed for larger loans, and financing is a steady challenge for farmers. GP-SCPP has piloted financial services initiatives, but the other grantees do not have systems in place to address these needs, and farmer challenges with perceptions of difficulty, poor motivation, and low literacy makes financial recordkeeping difficult.
- There has been no documented change to land access during the grants, and farmers face challenges of land certification due to longstanding regulations within ethnic groups and families.
- GP-SCPP and CR have proceeded in certifying farmers and encouraging them to increase their sales to processing companies. However, farmers will continue to sell to local traders due to convenience, accessibility, and farmers' inability to produce high quality beans. The progress toward meeting certification targets is varied, and it is not clear whether the certification system is enhancing or reducing farmers' access to improved varieties, warranting further investigation.
- The efficacy of the post-harvest handling practices of drying and fermentation is unclear. While dried and/or fermented beans improve quality, solar dryers are not shown to be built regularly by farmers using local materials, and farmers see no difference in price for dried, quality beans or fermented beans, which demotivates them from upholding these practices. These were the same findings as those from previous interventions in the sector (SUCCESS, AMARTA).
- Accessibility of inputs like fertilizer, pesticide, and planting materials is troublesome for farmers due to price and availability. Farmers lack access to affordable effective fertilizer, but there are developments occurring in regard to producing cocoa-specific fertilizer and correct dosing and combination with organic matter. This could prove a key challenge towards intensification.
- Grantee M&E systems vary in complexity and structure, with CocoaTrace and OFIS having potential for future data monitoring and analysis capabilities that can be widely utilized, but system technical difficulties largely plague grantees. Project monitoring data is collected differently under each grantee, which can make comparison across grantees challenging.

5.3. Evaluation Question 3: Sustainability

5.3.1 What are the exit strategies for each grant?

The three grants GP-SCPP, CR, and EQSI are all based on a public-private sector collaboration, which is theorized to facilitate sustainability.

Prior to the GP funding, **GP-SCPP** was operating in 13 districts. GP-SCPP used the GP program to expand implementation to 50 districts. According to two GP-SCPP management KIIs, it is likely now that GP-SCPP will be able to maintain its current scope of implementation with funds from consortium partners and SECO at least until 2020. For example, Mondelēz has committed to funding the Kolaka Timor office

(reviewed on a yearly basis), and Cargill has committed to funding the Sopeng Office at least. The evaluation team was unable to speak with a representative from Mondelēz.

Key informants from consortium partners explained that moving forward there will be two implementing partners: Koltiva, who will manage certification signups and audits and will be paid for by the consortium partners, and GP-SCPP, who will be responsible for training paid for by SECO until 2020. Currently, private sector companies such as Mars, ECOM, and Nestle also train farmers. During the PE, GP-SCPP consortium partner key informants stated that Mars, Cargil, Mondelēz, and ECOM may be willing to fund GP-SCPP to train farmers. Potentially, then, GP-SCPP could be fully funded by the private sector by 2020. However, information from KIIs with consortium partners reveals that the quantity of cocoa they are obtaining is under target. One consortium partner stated to the ET that they have not yet seen evidence of impact.

The **CR exit strategy** is to develop an enhanced market chain by combining innovations, such as incentives, development of fertilizer, and solar dryers, with certification of farmers by Olam. Olam will increase their access to cocoa through the innovations and certification and on this basis will invest in ongoing training. Farmers would receive capacity building leading to increased production and a certification premium, leading to increased income.

According to CR KIIs, Olam will continue to provide technical assistance linking farmers to certification schemes and to government support. For example, in North Luwu Olam is collaborating with the local government to establish cocoa grinding capacities. However, KIIs also state that all field activities and associated trainings will end at the end of GP funding. Olam is committed to buying certified cocoa, delivering traceable cocoa and verifying improved compliance for the next through 2020. However, reports show that Olam has not achieved high levels of sales from the program. As of March 2017 (Q7), sales to Olam were 15% of farmers and CR KIIs noted that ongoing training, coaching, and mentoring are unlikely to be viable if sales do not grow. CR did not facilitate sustainable access to inputs. The input packages (seedlings, fertilizer, and protective equipment) were distributed by the project team, but no system was established to enable ongoing access. Overarching farmer responsibility was not understated; farmers who are certified must re-apply every year on their own. One Olam KII stated that the only real sustainability plan will be completely dependent on farmer attitudes and behaviors and when farmers are motivated without donor or external support to uphold good practices and achieve certification.

The main **exit strategy for EQSI** uses the assumption that farmers will have developed capacity to ferment cocoa and developed skills in agroforestry to improve production, quality, and income source diversification under the project. The theory of change included fermenting cocoa for sale to a guaranteed buyer (KKI) who would agree to pay a premium of Rp 5000 per kilogram for fermented cocoa on top of the market price of cocoa, further boosting farmer income. However, this relies on the project logic that a higher price for fermented cocoa will enhance farmer income. This chain of events is unlikely, as the proposed market chain was not established because KKI did not fulfill its commitment to the program. There is no mention in the project documents or by the project team as to how beneficiaries would access additional training after the conclusion of GP funding. Though lead farmers played a pivotal role of data collectors and coaches/mentors to trained farmers during implementation, there is risk to this approach

that without incentives, lead farmers may become less active in this capacity. The ET concludes that the assumptions around a proposed exit strategy is at considerable risk.

5.3.2 To what extent have grants engaged key actors and entities in ensuring sustainability? Who are key actors, what is their role, and what type of support will they need after the project ends?

The main actors and entities that the grants have engaged in ensuring sustainability include the government, farmer groups, village-level organizations, commercial input suppliers, cocoa buying companies, and research agencies. All of these actors have been involved in the cocoa value chain to date and have been identified as being necessary for future cocoa sector progress in Indonesia.

Indonesian government agencies that have a role in supporting the cocoa sector include departments and agencies at the central, province, district, and village levels. The evaluation team did not meet with any central level agencies. However, during KIIs, management staff from EQSI, CR, and GP-SCPP stated that the Ministry of Agriculture budgetary priority is with priority commodities earmarked for national self-sufficiency (beef, rice, corn, soybean, and sugar), so funding for cocoa can be less consistent. The central government also supports ICCRI and issues regulations affecting the sector such as those pertaining to the export of raw beans, cocoa fermentation, and certification of seeds. KIIs with district-level government staff and grantee field staff revealed that in cocoa producing regions such as West, South, and Southeast Sulawesi, supporting cocoa farmers is a high priority for district and provincial government, but resources and capacity are limited. Support from provincial and district governments has been characterized by direct implementation of support for farmers on a limited scale including training farmers in FFSs and distributing free seedlings from certified centers. For example, one district government agency informed the ET they were distributing seedlings for 200 farmers. GP-SCPP KIIs stated that the system of certification of seed and free distribution of small amounts of seedlings had the effect of stifling business for seedling suppliers, and three seedling suppliers stated that business was currently down. One EQSI KII village organization stated the license for supplying seedlings was expensive, and since the government started distributing free seedlings, there was no demand for their seedlings.

Some district governments had been influenced by GP-SCPP, particularly in areas where cocoa is a mainstay crop, and were adopting the GAP/GEP curriculum in their own training programs. The South Sulawesi provincial government was strongly supportive of EQSI's approach, particularly in regard to fermentation but also in terms of collaboration with LEMS. The challenges for district governments in taking over from grantee programs relate to resources and frequent turnover of staff.

Lembaga Ekonomi Masyarakat Sejahtera (LEMS) was formed in 2009, facilitated by the plantation office of Southeast Sulawesi Province. The concept of LEMS is that rather than outside entities interacting with community-based groups on an individual basis, the village could negotiate with intermediaries from a whole-of-village basis (one EQSI KII). There are over 100 LEMS that have been created in Southeast Sulawesi. LEMS has functions of agro-input supplies, savings and loans schemes, trading, and warehousing.

Local enterprises in the Cocoa Sector are essential to sustainability. The ET's KIIs with seedling suppliers revealed that they play the role of providing planting material to farmers on a commercial basis. The greater the demand for their product, the more affordable supplies can become for farmers. According to interviews with GP-SCPP management and field staff, seedling suppliers need access to quality affordable root stock and a level playing field. Other MSMEs in the cocoa sector include Cocoa Doctors, Village Centers, and Cocoa Traders, who require access to business management capacity building and financial services to grow their businesses.

Cocoa Buyer Companies such as Barry Callebaut, Nestlé, Mars Inc., Mondelēz, ECOM, and Cargill have signed up to sustainability certification under the CSP 2020 Roadmap.³⁹ Other companies such as Olam have also committed to a certification system for farmers. The cocoa buying companies sustainability schemes are important for farmers, because of the premium paid to them and because currently the certification audit process has the best capability to provide coaching to a large number of farmers through the annual audit process. The support that cocoa buying companies will need to continue with sustainability certification programs is assistance in supporting farmers to apply GAP and GEP and sell their cocoa as certified cocoa, and feedback on the efficacy of their efforts.

According to KIIs with cooperatives, GP-SCPP management staff and Koltiva management staff, **cooperatives** are well placed to act as service providers for farmers including as traders, input suppliers, suppliers of finance, and capacity building. However, on GP-SCPP, cooperatives have not demonstrated a strong capacity in business management that would enable them to expand and grow as successful businesses. Cooperatives need further support in this regard. More investigation is needed into exactly what support would enable cooperatives to improve their business performance.

Smallholder cocoa farmers are obviously important actors in sustainability. As stated above under EQ 1, KIIs with grantee stakeholders, mini-survey data, and KIIs and FGDs with farmers showed that farmers need ongoing coaching and mentoring in GAP, GEP, and GFP and will require ongoing and sustainable access to affordable quality inputs. Farmers will also benefit from support in developing strategies to respond to changing weather patterns and price fluctuations. In order to participate actively in sustainability certification systems, farmers need convenient access to cocoa companies' buying stations.

5.3.3 What factors have been identified that will enable continued success for farmers and smallholders, including key strategies or approaches (certification, fermentation, incentives)? What challenges or limitations may affect sustainability of grant outcomes?

Interviews with grantee management staff and buying companies revealed that the main systems that will enable continued success for farmer and smallholders are built on the commitment of buying companies to invest in improvements in productivity of smallholders. These improvements would be in the shape of certification sustainability systems and other forms of investment by companies, including farmer training. A proportion of funds from the premium paid for certified cocoa can be used to facilitate

³⁹ Swisscontact (2015), Full Partnership Proposal, Green Prosperity—Sustainable Cocoa Production Program

coaching and mentoring services, as well as input supplies and financial services by intermediaries. Certification audits also provide an opportunity for coaching and mentoring.

Public sector and donor funds can also support training, coaching, mentoring, and inputs supplies for farmers, but their scope is always limited in terms of the number of farmers they can support. This PE has shown that farmers need ongoing coaching and mentoring to maintain momentum in GAP, at least until GAP has become fully integrated into their farming activities. Practices and entities that generate ongoing income are in a better position to expand and provide services on a sustainable basis.

Interviews and FGDs with farmers, MSMEs, and grantee management staff, as well as grantee quarterly reports, revealed that another strategy that is essential for sustainability is fostering MSME commercial input suppliers, particularly of fertilizer and planting material, who can provide affordable goods to farmers. Interviews with government, grantee management staff, and farmers, as well as FGDs with farmers, revealed while some farmers are adopting GAP and GEP and reaping the reward, other farmers that have limited access to inputs and low income from cocoa due to adverse weather conditions and low market price may lag in their adoption of a wide variety of the GAP practices they had been taught.

5.3.4 What role do global market trends or priorities play in considering sustainability?

Interviews and FGDs with farmers reveal that global market trends affect sustainability in Indonesia to the extent price changes affect farmer income. Figure 10 shows that the price of cocoa is more unstable than that of other commodities. In the last year, the international cocoa price has dropped by over 50% according to the International Cocoa Organization. In December 2017, it reached its lowest price in five years. This has been due to an excess in supply from West Africa. It is expected, however, that there will be at least a modest recovery of the cocoa price in 2018.⁴⁰

During field work, one-third of GP-SCPP and CR FGDs said that **price per ton** is the main driving factor for farmers to reap the benefit for cocoa, as echoed by 20% of GP-SCPP KIIs. One GP-SCPP KII stated that only farmers with four hectares or more are more able to withstand drops in price and afford fertilizer. During FGDs for EQSI, GP-SCPP, and CR, farmers stated that a combination of low price and wet weather through the dry season led many farmers to cut down their cocoa plantations either in part or in full. In considering sustainability, potential future price fluctuations will influence the income for farmers operating at different scales with varying financial conditions. It was also noted that some farmers do not have a good understanding of the reasons behind price fluctuations, and they believe that the government or other entities does or could control the price.

According to a KII with Koltiva management staff, the Aceh FAQ price usually represents about 90–94% of the New York price. However, it was revealed during the field study that in some areas where farmers have less access to information, prices they receive from local traders are lower. For example, the ET was informed by farmers in Konawe that they had been receiving Rp 17,000–18,000 per kilogram, when other

⁴⁰ “Analysts forecast at least modest increase in cocoa price in 2018” (January 18), found at <https://www.coffeeandcocoa.net/2017/10/02/forecasts-modest-increase-cocoa-price/>.

areas had said they were receiving Rp 24,000. This shows that there is still room for improvement in farmers' access to information about prices in some areas.

As explained above under Section 5.3.4, cocoa companies are focused on increasing supply from Indonesian farmers. This commitment affects sustainability because companies are willing to invest in cocoa. Moreover, Gol's imposition of an export tax on raw beans in 2010⁴¹ spurred companies such as Olam,⁴² Cargill,⁴³ Mars,⁴⁴ and Barry Callebaut⁴⁵ to open processing plants in Indonesia. At the end of 2016, these facilities were only operating at 50% production capacity.⁴⁶ A GP-SCPP KII noted that the cocoa companies have been importing cocoa to fill their processing capacity, but a VAT and stricter tests on nation of origin for cocoa beans has made it less attractive for companies to import cocoa.

Another effect of global market trends on sustainability in Indonesia is that global market segmentation has overridden the Indonesian government's efforts to push for all cocoa harvested in Indonesia to be fermented in order to increase the value that accrues to farmers.⁴⁷ KIIs with consortium partners revealed that companies continue to buy dried non-fermented cocoa and import fermented cocoa for processing, or, in the case of Mars Inc., buy wet beans and ferment their own cocoa. One GP-SCPP KII informed the ET that it is cheaper for Cargill to bring fermented beans from the Ivory Coast than to obtain them from Indonesia. Another CR KII stated that there is no market for fermented beans in Indonesia.

⁴¹ <http://ageconsearch.umn.edu/bitstream/152175/2/CP%20Rifin.pdf>.

⁴² <http://olamgroup.com/news/olam-international-invest-us61-million-new-cocoa-processing-facility-indonesia/#sthash.WL1o5Zxx.dpbs>.

⁴³ <https://www.cargill.com/news/releases/2014/NA31655792.jsp>.

⁴⁴ <http://www.mars.com/indonesia/en/about.aspx>.

⁴⁵ <https://www.barry-callebaut.com/news/2016/10/barry-callebaut-celebrates-grand-opening-its-first-chocolate-factory-indonesia>.

⁴⁶ <https://www.indonesia-investments.com/news/todays-headlines/cocoa-bean-production-indonesia-to-recover-in-2017-exports-slide/item7451?>

⁴⁷ <http://www.thejakartapost.com/news/2013/07/25/industries-asked-buy-only-fermented-cacao-beans.html>.

Conclusions: Evaluation Question 3

- GP funding is aimed at stimulating private sector investment to generate opportunities for smallholders to sustainably obtain additional income based on improved agricultural techniques and the payment of a premium for committing to good production, environmental, and ethical practices. However, if cocoa continues to be more and more difficult to access, there is the possibility that at some point the companies may start to question the strategy, requiring more of a focus on the link between farmer training and the level of cocoa supply that companies access.
- It appears that GP-SCPP will be maintained at expanded size, with contributions from consortium partners for the certification and auditing aspect of the program, but CR and EQSI longevity are questionable due to poor sales and reliance on a price increase. Sustainability will require considerable input from many stakeholders at multiple levels.
- For testing a new TOC, two years was a very short period (CR and EQSI), particularly given the large amount of administrative and analytical work required. It is noteworthy that a higher level of sustainability potential was achieved on the program that was already established compared to the new programs.
- Ongoing coaching and mentoring in GAP, GEP, and GFP requires ongoing and sustainable access to affordable quality inputs and support in developing strategies to respond to changing weather patterns and price fluctuations. In order to participate actively in sustainability certification systems, farmers need convenient access to cocoa companies' buying stations.
- Under current weather and price conditions where conversion of cocoa to other crops will be an inevitable ongoing practice among Indonesian farmers, research to determine best practices for income maximization in mixed systems involving cocoa may be useful.

5.4. Evaluation Question 4: Relevance and Lessons Learned

5.4.1 Have grantees received any feedback from companies, farmer associations, co-ops, or GoI? What is done with this feedback?

EQSI and CR respondents shared that they have not received feedback from companies, farmer associations, co-ops, or GoI. The main feedback that has been received by grantees includes feedback from particular buyer companies to GP-SCPP that they need to see evidence of impact of the sustainability certification approach in terms of increasing the quality and quantity of beans. GP-SCPP responds to these concerns by collecting data and generating information on yields of certified farmers.

According to interviews with MCC staff and GP-SCPP management staff, GP-SCPP has also received a range of feedback from the government including that it prioritizes the interests of multinational companies over Indonesian farmers by not mandating the fermentation of cocoa. To respond to this feedback, GP-SCPP has pointed out that farmers themselves are not willing to ferment cocoa due to the lack of price incentives to do so and that they cannot control the buying strategies of companies. According to district-level government representatives and GP-SCPP management staff, regional governments expressed their displeasure that GP-SCPP created its own training groups when there were farmer groups in existence that had already been officially registered. GP-SCPP responded by stating that these officially registered

groups were not active and therefore could not be engaged with. One third of government respondents informed the ET that they felt GP-SCPP did not collaborate with them and only involved them in activities in a limited capacity. It was not agreed upon by respondents that this feedback has been shared with GP-SCPP.

5.4.2 Are there any notable considerations for activity implementation within specific regional or demographic areas?

There are two aspects where regional differences come into play in having an effect on program implementation.

The first area relates to district governments. Interviews with regional governments and grantee management staff across all grantees revealed that regional governments differ in the level of resourcing that they have available to direct toward support for cocoa farmers. Interviews with the North Luwu regional government revealed that Luwu and North Luwu have been high cocoa producing areas for decades, with extensive collaboration with companies and development partners, notably Mars. The North Luwu Government brings expertise and a strong capacity for strategic planning in the sector that is lacking in some other districts.

The other area where regional differences influence implementation is on the cultural differences between different ethnic groups. FGDs with farmers and interviews with field management staff revealed that trans-migrants from Bali and Java in Sulawesi are known to be hardworking and have stronger group cohesion than some local Sulawesi ethnic groups. Bugis are known to be highly patriarchal, which affects how easy it is to encourage women to participate and speak up in meetings. In West Sumatra, there is a matrilineal culture, so women hold management seats in government and own the land and farms, so cocoa farming activities are very female dominated.

5.4.3 To what extent can M&E practices/systems provide useful data for future programming or activity assessments?

Data generated through M&E systems provides a lot of useful information for future programming or activity assessment due to the large amount of data available on landscapes, farmer practices, use of inputs, genetics, sociocultural factors, gender, and vulnerable groups. This data would be useful as baseline information for future activities. GP-SCPP's CocoaTrace system with farm-level information on 100% of farmers at the baseline and 30% of farmers at the post line is an excellent resource for understanding the link between farmer training, certification and input supplies, and yields and productivity, and for providing timely programmatic updates. CocoaTrace as a data management system has already been taken up by stakeholders operating in other value chains such as palm oil and patchouli. CR's OFIS system is owned by Olam and accessible by the CR private sector partners. It is a secure database that can run surveys and perform data analysis and could serve as an important tool for the continuation of project activities.

5.4.4 To what extent do inclusion in organizations, Koperasi Unit Desa (KUD), etc., affect farmer learning and earning outcomes?

In order to access assistance from the government and other development organizations such as NGOs and companies, Koperasi Unit Desa (KUD) or village cooperative systems, farmers need to be organized in groups. There are many activities that farmer groups can perform together, such as tasks that need additional labor to be completed (e.g., digging ditches). Farmer groups also perform activities such as joint purchase and distribution of inputs, joint sale of products, and joint quality/value add activities (e.g., drying and fermentation).

Table 16: Number of farmer groups supported on the GP cocoa portfolio

	GP-SCPP			CR			EQSI		
Project outputs (short-term)	Target*	Actual*	% Achieved Sept 2017 (Q9)	Target	Actual	% Achieved June 2017 (Q8)	Target	Actual	% Achieved Sep 2017 (Q7)
# Farmer groups established or supported and active	2,900	1,941	67%*	unknown	unknown	unknown	280	238	85%

*764 farmer groups were active with GP-SCPP before 2015

Farmer Groups

According to the LLA completed for all grants, farmer groups are effective communication channels for delivering government messages, organizing common meetings or trainings, and providing other services. Groups are recommended for ease in selection for training, accessing loans, and managing nurseries. During field work, one GP-SCPP KII stated that a farmer group had created a farmer group of collective work (*gotong royong*) scheme for fertilizer accessibility, where all members donate 3 kilograms of fertilizer per farmer, and one EQSI FGD stated that *gotong royong* had been effective and empowering. One CR FGD and EQSI KII confirmed that involvement in farmer groups serves to motivate farmers and assist with troubleshooting. Farmer groups can apply for funding for cocoa from the village government by submitting a proposal, but one GP-SCPP community leader shared that if the proposal is submitted by the lead farmer, often the funds are not shared equitably with the remainder of the group.

During the field research, respondents stated that farmer groups tended to be externally driven by outside assistance, and members often failed to remain consistently active over a longer period. This is particularly the case when earnings are down because of price and weather conditions, reducing farmers' enthusiasm to actively manage their cocoa. GP-SCPP and CR feedback from farmers and key informants said that farmer groups and cooperatives are only active to receive government agro-inputs, and farmer groups often have a limited number of active members (usually lead farmers) anyway. As noted in Section 5.1.2, there are considerations for farmer group creation, beneficiary selection, and sustainability under donor-funded projects.

Cooperatives

Theoretically, cooperatives should be in a good position to address several farmer needs including ongoing coaching and mentoring and access to agriculture inputs such as fertilizer and seedlings. As intermediaries, cooperatives can generate income from farmers' premiums under certification schemes as well as savings and loans schemes that they can reinvest in providing services and inputs for farmers. However, unfortunately, the cooperatives that have been a part of the GP cocoa portfolio, particularly the GP-SCPP program, have been hampered by management capacity and commitment as well as logistical challenges. It is notable that a GP-SCPP KII noted that cooperatives are a donor creation and not serious players, and one KII for both GP-SCPP and CR felt that Mars does not perceive that cooperatives have the capacity to manage certification. On a more positive note, one GP-SCPP KII did say that certification through farmer association rather than traders benefits farmers more (they provide 60% for farmers and 40% for cooperative management).

Cooperative challenges under GP-SCPP

Koperasi Gabungan Gapoktan (KGG) was a trader and certificate holder for Cargill, and KUB Payung Bersama (KPB) was a trader and certificate holder for Mars.

- **KGG** lacked staff and a business plan and did not offer a comparative advantage over other certifying agents in the region in the amount of the premium or in capacity building services, making it a challenge to attract additional members. It also could not ensure that farmers who were certified with a company actually sold their cocoa to that company.
- **KPB** was unable to cover operational costs and the cost of the certification and audit with revenue from its premium and low supply of beans received from farmers. Many farmers' relationships with local traders was stronger; they received loans from the traders and supplied those who provided the loans, and they preferred to sell to local traders due to convenience, acceptance of smaller quantities, timeliness, and not having to wait for Mars trucks or quality checks.

5.4.5 What, if any, lessons, practices, or successes can be applied to other value chains and to MCC and/or other private and public stakeholders' work in (or outside of) the cocoa sector?

There are lessons learned from the program across a range of areas:

- Current weather extremes cause havoc for farmers. This is compounding other challenges, such as high pest and disease burdens and a low price for cocoa, resulting in a trend toward converting cocoa trees to other crops. Such issues are also no doubt being experienced in other value chains, and these external factors make the need for climate change resiliency strategies more important (30% GP-SCPP KIIs, 50% CR KIIs, 61% EQSI KIIs).
- It is challenging to develop coaching and mentoring systems at scale. Certification/audit systems provide a self-funding system for field agents to visit farms, but inconsistent or widely-spaced visits might not be sufficient to ensure adoption of GAP. This lesson may also be applicable to other value chains (10% GP-SCPP KIIs, 70% CR KIIs, 31% EQSI KIIs).
- Projects are not necessarily learning from the past. It is notable that fermentation had been tried and deemed ineffective by SUCCESS and AMARTA projects previously, and solar dryers have been demonstrated to be ineffective by AMARTA, but both technologies were still adopted in the cocoa portfolio.
- Certification of farmers does not automatically mean they will sell all their cocoa to the processing company that certified them. Factors of convenience and quality standards (their own cocoa

might not be high enough quality for processing companies) come into play here. This lesson may also apply to other value chains.

- Projects seeking to improve productivity and income may need to specifically examine how much contact and other aspects that are required to change farmer mindset is needed, as evidence from the PE shows that farmers will not necessarily adopt simply on the basis of receiving a new training.
- Agricultural development and behavioral outcome projects also are effective when lasting at least five years so that ambitious outputs are realistic within timelines, and projects are not just “chasing targets” (33% GP-SCPP KIIs; 60% CR KIIs, 38% EQSI KIIs). Insufficient timelines can also affect the amount of unspent funds remaining due to activities that were unable to materialize at the close of a project (CR KII)
- Government involvement at multiple, integrated stages of development projects can be complementary and necessary. Project management must take care not to overlap interventions in the same regions and to ensure collaboration with other districts; it risks double counting beneficiaries, mismanagement of distribution of inputs, and training fatigue (10% GP-SCPP KIIs, 40% CR KIIs and 69% EQSI KIIs).
- A second phase of data collection will be necessary to gauge long-term outcomes of grantee progress in GHG reduction, behavior change, and farmer resilience as well as to see any actual effect on yield and any global cocoa demand trends. Additionally, this phase could explore the success of the PSGIP and other mandatory program implementation tools, including adoption of good practices developed from use of the Environment and Social Management System (ESMS) and the efficacy of such systems for future projects.

Conclusions: Evaluation Question 4

- Government support and cultural/traditional considerations are most widely recognized as providing regional differences in grant activities and progress. Governments at district and regional levels have different funding streams and thus priorities, and their ability to support cocoa programming at present or in the future is varied. Participation of farmers and constraints to project inclusion also is affected by ethnic group expectations and informal standards.
- Utilization of M&E database systems is necessary for longevity of projects and knowledge management; however, there remain challenges relating to incorporation of data collection requirements of multiple companies, staff capacity to handle technology, reliably collect data, and utilize it for monitoring, and company commitment to transparency and ability to share data when requested. A great deal of data on the program was collected and generated but not used, diverting energy that could perhaps have been better spent on implementation.
- Inclusion in farmer groups is positive and necessary for most farmers, as it provides them with accountability and a means through which to access financing and government agro-inputs. However, these groups will not necessarily remain active without outside support so cannot be expected to act as a resource for farmer learning and earning without being linked with a program.

- Cooperatives have been playing a role in trading, certification management, input supply, and access to finance, but management issues have prevented them from being a reliable source for farmers.

5.6. Policy implications or considerations

The findings of the PE show that the cocoa sector in Indonesia has designed its capacity building and support efforts around expanding production, but it may need to reorient itself to achieving resilience in unstable climatic and market conditions. This can be seen in the fact that while some success in adoption of GAP has occurred among farmers leading to improved productivity, the overall picture reveals steadily declining levels of production. Such refocusing would entail more emphasis on genetic research to strengthen cocoa plants' resistance to the effects of weather extremes and understanding and strengthening farmers' risk management systems through farm diversification.

More analysis is needed on how to establish sustainable affordable extension services providing ongoing coaching and mentoring for farmers at scale. There are several models that have been trialed through the GP cocoa portfolio, including annual certification audits through Koltiva, lead farmers (EQSI) or key farmers (GP-SCPP) with plans for farmers to pay for consultants to support them (CR), and cooperatives as certificate holders for certification/traceability schemes (GP-SCPP). All approaches still have challenges, so more work needs to be done to continue to strive to obtain an effective approach.

More effort is needed to ensure that interventions in the cocoa sector are learning from each other. Monitoring and evaluation systems may need to improve to ensure that the right data is being collected at the right time, and partners in the sector need to be sure to communicate key findings and be informed about what has and has not worked before embarking on new programs.

There is a need for a more strategic approach among donors and the government to develop input markets. Farmers lack access to affordable, effective fertilizer: subsidized fertilizer is limited and not well suited to cocoa. Meanwhile, developments regarding cocoa-specific fertilizer are still in early stages. A strategy is needed to increase the availability of cocoa-specific fertilizer and access to expertise on suitable mixes and doses for different soil types and conditions and maximal affordability. Quality seedlings are also in short supply, and there are movements in the supply of seedlings that are working at cross purposes (the government providing a limited number of free seedlings and GP-SCPP supporting small businesses selling seedlings). The mainstay focus for sector stakeholders should be on supporting flourishing commercial input markets to develop affordable supplies.

More analysis may also be needed regarding certification systems for producing and distributing genetic material. The regulation requiring that lower truck (*batang bawa*) seedlings be certified and sold by licensed outlets may not be having the effect of improving the quality and quantity of available seedlings. Farmers' ability to share seedlings among themselves increases genetic diversity, which has a strengthening effect on the ecology of cocoa farms.

Interviews with grantee management staff revealed that improving financial services is essential to counteracting the effect of indebtedness to local traders. Branchless banking shows promise in expanding

financial services to rural areas. Savings and loans schemes in village-level associations are also useful. Ongoing work is needed on the regulatory and policy developments in the finance sector to improve incentives of service providers to engage with rural cocoa smallholders. More work is needed to facilitate formal certification of rural smallholder landholdings to improve the bankability of cocoa farmers.

6. NEXT STEPS AND/OR FUTURE ANALYSIS

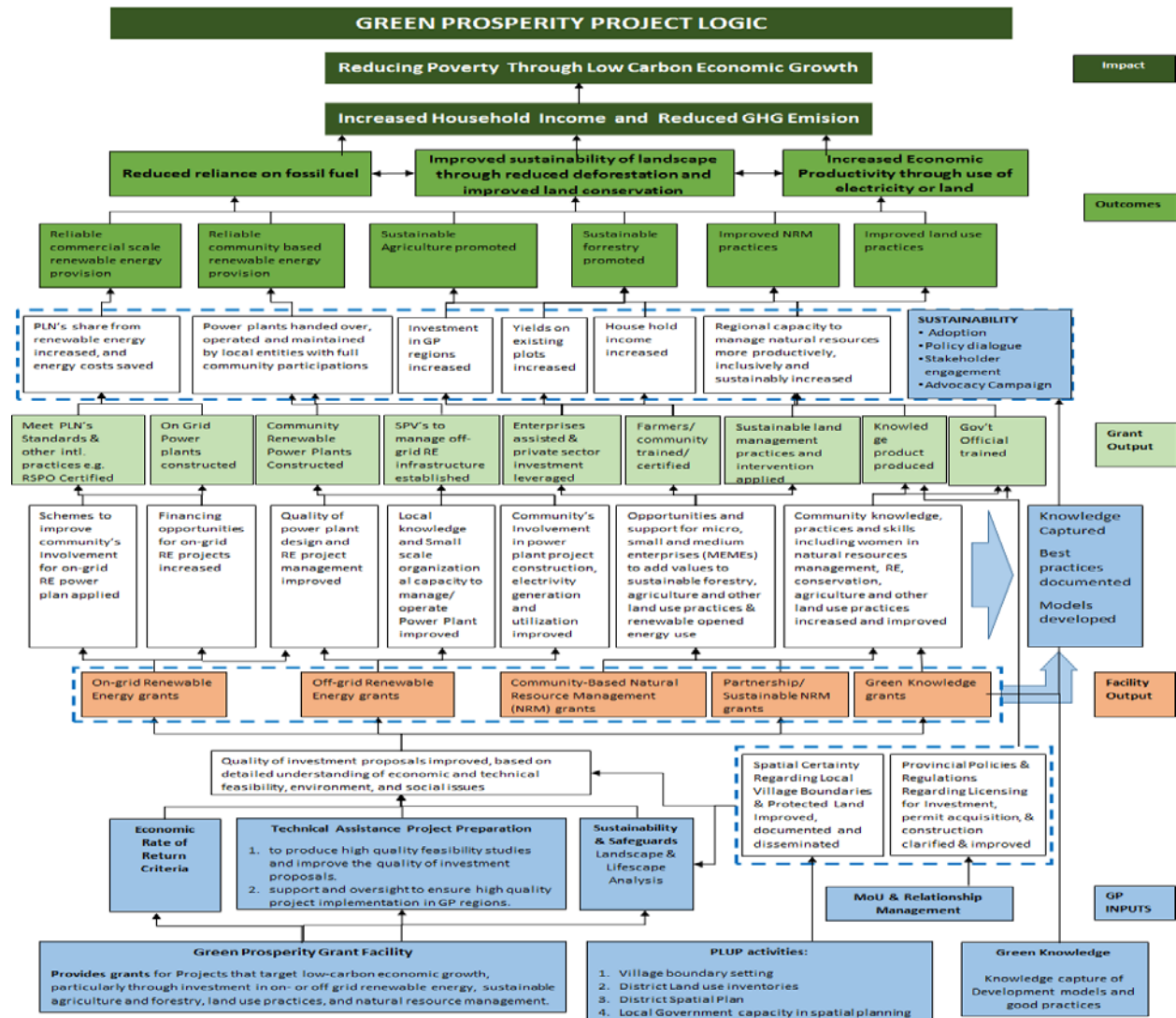
6.1. Dissemination procedures

The evaluation team will present the findings from this evaluation report to MCA-I In Jakarta in early 2018, prior to the end of the three cocoa grants. The final evaluation report will be approved for dissemination by MCC in Washington, D.C.

In two years (2019), the second phase PE (endline) will capture real achievements and changes in cocoa grant outcomes, accounting for long-term effects not readily materialized by the time the grants and their activities have concluded (March 2018). The proposed Phase 2 data collection will be informed by the results from this Phase 1 data collection and will explore long-term outcomes such as reduction in greenhouse gas emissions and improved livelihoods through income and knowledge increases, assessing contributions associated with each of the grant approaches.

Annex 1: Cocoa Grants Logical Framework Models

MCC Green Prosperity Project Logic

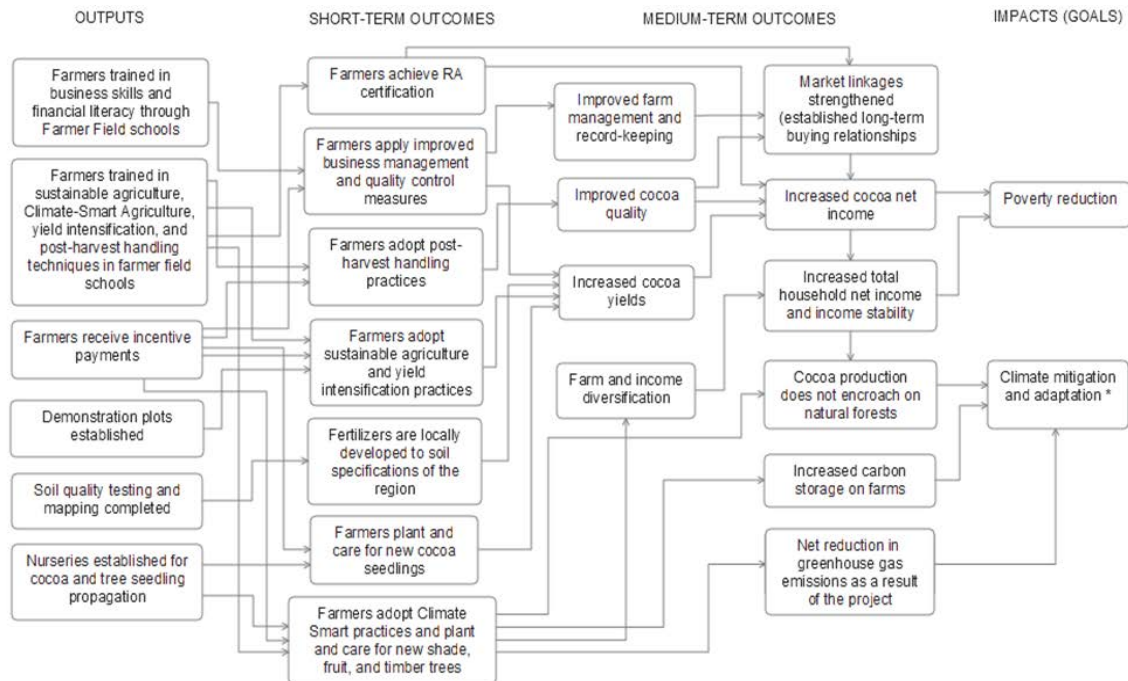


Source: MCA-I, 2017 Monitoring and Evaluation Plan, Version 4

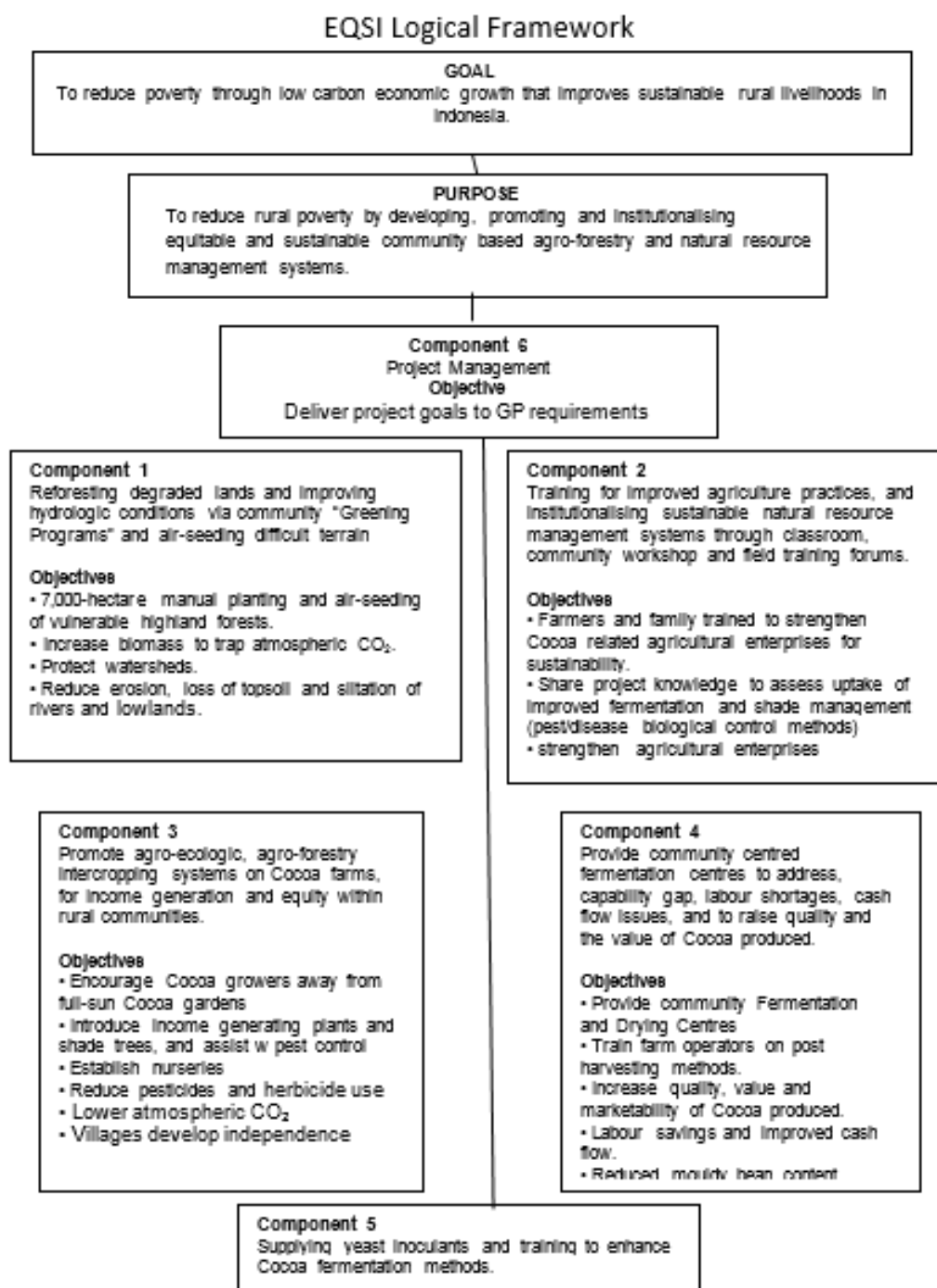
GP-SCPP Results Chain



Cocoa Revolution Logical Framework



EQSI Logical Framework



Annex 2. GANTT Chart of Evaluation Timeline and Deliverables

			BASELINE ONLY: March 2017 - April 2018															
			2017												2018			
Phase	Task	Deliverable	M	A	M	J	J	A	S	O	N	D	J	F	M	A		
Phase 1 (Evaluation Design)	Task 1. Develop Evaluation Design Report	Document Review																
		Work Plan with expected deliverables and deadlines		D														
		Draft Evaluation Design Report					D											
		Obtain local Stakeholder feedback w/response					D											
		Obtain MCC feedback with response					D											
		Final Evaluation Design Report						D										
Phase 2 (Evaluation Implementation, Reporting, and Dissemination)	Task 2. Obtain/Develop Evaluation Data	Draft English questionnaires					D											
		Travel SOW for data collection trip						D										
		Final English & translated questionnaires						D										
		Final approval of IRB Package (+ re-submission of final instruments)				D		(D)										
		Data Collection Trip (4 working weeks)																
		Data collection Trip Report										D						
	Task 3. Develop Final Evaluation Report	Draft Evaluation Report (Analysis & Reporting)											D					
		Local Stakeholder Feedback with response												D				
		MCC feedback with response												D				
		Final Evaluation Report and Public Statement														D		
	Task 4. Conduct Dissemination and prepare DRB submission	Data and analysis file prep & submission per MCC guidelines															D	
		Presentation of final results to MCA-I (Indonesia)													D			
		Presentation of final results to MCC (Washington)												D				
		Final submission of PPTs for presentation													D			
All Phases	Reporting	Monthly Progress Reporting	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M

	Task active
D	Submission of Deliverable
M	Monthly Progress Report

* Deliverables will be due at various points throughout sub-contract eval team LOE for review and approval of various deliverables

Annex 3. Secondary data/documents reviewed

GP-SCPP	EQSI	Cocoa Revolution
Project Proposal	Project Proposal	Project Proposal
Quarterly Reports 1-8	Quarterly Reports 1-7	Quarterly reports 1-8
KPI and M&E Plan	M&E Plan	M&E Plan
Training modules	Training modules	Training modules
MIS data	MIS data	MIS data
Before and after training assessments	Project Social and Gender Inclusion Plan (PSGIP)	Global market and data trend reports
Baseline and Postline Studies	Lifescape- Landscape Analysis (LLA)	Project Social and Gender Inclusion Plan (PSGIP)
Economic Rate of Return Analysis	Economic Rate of Return Analysis	Lifescape- Landscape Analysis (LLA)
Project Social and Gender Inclusion Plan (PSGIP)		Economic Rate of Return Analysis
Lifescape- Landscape Analysis (LLA)		

Annex 4. Field Data Collection Summary

KEY INFORMANT INTERVIEWS			
COMPANY	SEX	TITLE	DATE
MCC	F	Green Prosperity Project Director	9/14/2017
MCC	F	Associate Director, Monitoring and Evaluation	9/18/2017
MCC	M	MCC Independent Consultant	9/18/2017
MCC	F	Director, Gender and Social Inclusion	10/12/2017
MCA-I	M	Specialist, Monitoring and Evaluation	9/18/2017
MCA-I	F	Director, Performance Evaluation	9/18/2017
MCA-I	M	Deputy Team Leader	9/18/2017
MCA-I	F	Gender Specialist	9/18/2017
MCA-I	M	Associate Director, Partnership Grant	9/18/2017
MCA-I	F	Executive Director/CEO MCA-I	9/19/2017
MCA-I	M	National Relationship Coordinator	9/19/2017
CSP	M	Chairman of the Supervisory Board, Cocoa Sustainability Partnership	11/16/2017
GP-SCPP	M	Team Leader Agribusiness Financing Facility	9/19/2017
GP-SCPP	M	Program Director	9/19/2017
GP-SCPP	F	Senior Program Manager Technical Service and Quality Assurance	9/19/2017
GP-SCPP	F	Senior Research and Content Manager, Sulawesi cluster	10/12/2017
GP-SCPP	F	Research and Content Manager	9/19/2017
GP-SCPP	F	Research Manager, Sulawesi cluster	10/12/2017
GP-SCPP	M	Senior Farmer Organization and MSME Manager	9/19/2017
GP-SCPP	M	Regional Manager	9/29/2017
GP-SCPP	F	Program Officer	9/29/2017
GP-SCPP	F	Regional Manager	10/4/2017
GP-SCPP	F	Project Officer/Acting Regional Manager	9/26/2017
GP-SCPP	M	Field facilitator	9/25/2017
GP-SCPP	F	Field Facilitator	9/26/2017
GP-SCPP	F	Field facilitator	9/27/2017
GP-SCPP	M	Community Leader	9/25/2017
GP-SCPP	M	Community Leader	9/25/2017
GP-SCPP	M	Community Leader	9/27/2017
GP-SCPP	M	Community Leader	10/5/2017
GP-SCPP	M	Community Leader	9/30/2017
GP-SCPP	M	Cocoa Service Provider (seedling seller)	9/25/2017
GP-SCPP	M	Local Supplier to Mars	9/29/2017
GP-SCPP	M	Department of Agriculture, Estate Crops Division	9/24/2017
GP-SCPP	M	Department of Agriculture, Estate Crops Division	9/25/2017
GP-SCPP	M	Department of Agriculture, Estate Crops Division	9/25/2017
GP-SCPP	M	Department of Agriculture	9/26/2017
GP-SCPP	M	Department of Agriculture	9/26/2017
GP-SCPP	M	Department of Agriculture	9/29/2017
GP-SCPP	M	Department of Agriculture, Head of Estate Crop Division	10/4/2017
GP-SCPP	M	Bappeda Provinsi - Infrastructure and Statistics	9/24/2017
GP-SCPP	F	Bappeda	9/25/2017
GP-SCPP	F	Bappeda	9/29/2017
GP-SCPP	M	Bappeda	10/4/2017

GP-SCPP	F	Cocoa Village Centre	9/29/2017
GP-SCPP	M	CP Ecom, Development & Sustainability Manager	9/27/2017
GP-SCPP	M	CP Ecom, Buying Unit Manager	9/23/2017
GP-SCPP	F	CP Cargill, Sustainable Country Lead	9/21/2017
GP-SCPP	M	CP Barry Callebaut	9/26/2017
GP-SCPP	F	CP Mars Certification Manager	9/22/2017
GP-SCPP	M	CP Mars Field Staff	9/29/2017
GP-SCPP	M	CP Mars Field Staff	9/29/2017
GP-SCPP	M	Advisor, PT Koltiva	10/6/2017
Cocoa Revolution			
CR	M	Project Manager	9/22/2017
CR	M	Sustainability Manager	10/2/2017
CR	M	Sustainability Manager, Southeast Asia & ME Olam	9/22/2017
CR	F	Field Coordinator, Climate	9/22/2017
CR	F	Performance Evaluation Officer	9/22/2017
CR	F	Director, GrowCocoa	10/11/2017
CR	M	Field Coordinator Olam	10/3/2017
CR	M	Senior Researcher	9/22/2017
CR	M	Coordinator, Cocoa Landscapes and Livelihoods	10/2/2017
CR	M	Field Facilitator	10/3/2017
CR	M	Community Leader (Kakao Setuju group)	9/30/2017
CR	M	Community Leader	10/2/2017
CR	M	Cocoa Service Provider (seedling seller)	9/30/2017
CR	M	Buying Unit, Olam	10/8/2017
EQSI			
EQSI	M	Project Director	10/9/2017
EQSI	M	Regional Manager for Kolaka Timur	10/9/2017
EQSI	M	Regional Manager for Konawe	10/10/2017
EQSI	M	Technical Specialist	10/10/2017
EQSI	F	Commissioner, Kalla Kakao	10/12/2017
EQSI	M	Head of LEMS, Andomesinggo	10/5/2017
EQSI	M	LEM Provinsi, Sekretaris	10/10/2017
EQSI	M	Field Staff Kolaka Timur	10/10/2017
EQSI	M	Field Staff Konawe	10/10/2017
EQSI	M	Community Leader	10/6/2017
EQSI	M	Community leader	10/7/2017
GP-SCPP/EQSI/CR	M	Head of Processing and Marketing, Plantations, Bappeda Propinsi & I.R Supriyanto, M.P, Head of Seed and Crop Protection, Department of Plantation Crops and Horticulture	10/9/2017
EQSI	M	Head of Bappeda Southeast Sulawesi province	10/9/2017
EQSI	M	Technical staff, Bappeda Southeast Sulawesi	

FOCUS GROUP DISCUSSIONS

	Region/ District	Location	Total	Males	Females	Date	Group Visited
West Sulawesi	Mamuju	Bunde	11	8	3	25/09/2017	Sumber Makmur
	Majene	Lombang	10	7	3	27/09/2017	Mandiri Bakti

West Sumatra	Padang Pariaman	Tandike Barat	9	4	5	25/09/2017	Jaya Sakato
	Pasaman Barat	Aur Kuning	12	4	8	27/09/2017	Karunia Ilahi
South Sulawesi	North Luwu	Tolada	10	7	3	30/09/2017	Sipakalebbi
	North Luwu	Kampung Baru	12	9	3	30/09/2017	Kakao Setuju
	North Luwu	Banyuwangi	9	2	7	30/09/2017	Banyuwangi 2
	North Luwu	Sumber Baru	4	3	1	2/10/2017	Siporennu SR (Sukamaju)
Southeast Sulawesi	North Kolaka	Landolia	10	6	4	3/10/2017	Pattirowalie (Ranteangin)
	North Kolaka	Batu Putih	10	8	2	3/10/2017	Padaidi BA (Batu Putih)
	East Kolaka	Wanuambuteo	12	5	7	4/10/2017	Prima Lestari
	East Kolaka	Lamusila	12	7	5	5/10/2017	Mekar Jaya
	Konawe	Onembute	9	6	3	5/10/2017	Andromesinggo / Tunas Harapan Onombute
	Konawe	Waworoha	12	9	3	6/10/2017	Karya Bersama
	South Konawe	Purema Subur	11	7	4	7/10/2017	Maccolli Loloe/Padaelo 1/ Tenriwaru
	South Konawe	Alengge Agung	10	5	5	7/10/2017	FG Tani Sejahtera/ Sumber harapan
Total		16	163	97	66		

MINI-SURVEY PARTICIPANTS

	Region/ District	Location	Total	Males	Females
West Sulawesi	Mamuju	Bunde	10	7	3
	Majene	Lombang	11	8	3
West Sumatra	Padang Pariaman	Tanjung Raya	9	4	5
	Pasaman Barat	Aur Kuning	13	6	7
South Sulawesi	North Luwu	Tolada	11	7	4
		Banyuwangi	9	7	2
		Kampung Baru	12	9	3
		Sumber Baru	4	3	1

South Sulawesi	North Kolaka	Landolia	3	0	3
	East Kolaka	Wanuambuteo	12	5	7
		Lamosila	13	8	5
	South Konawe	Puurema Subur	11	7	4
		Alengge Agung	10	5	5
	Konawe	Waworaha	12	9	3
		Onembute	9	6	3
Total			149	91	58

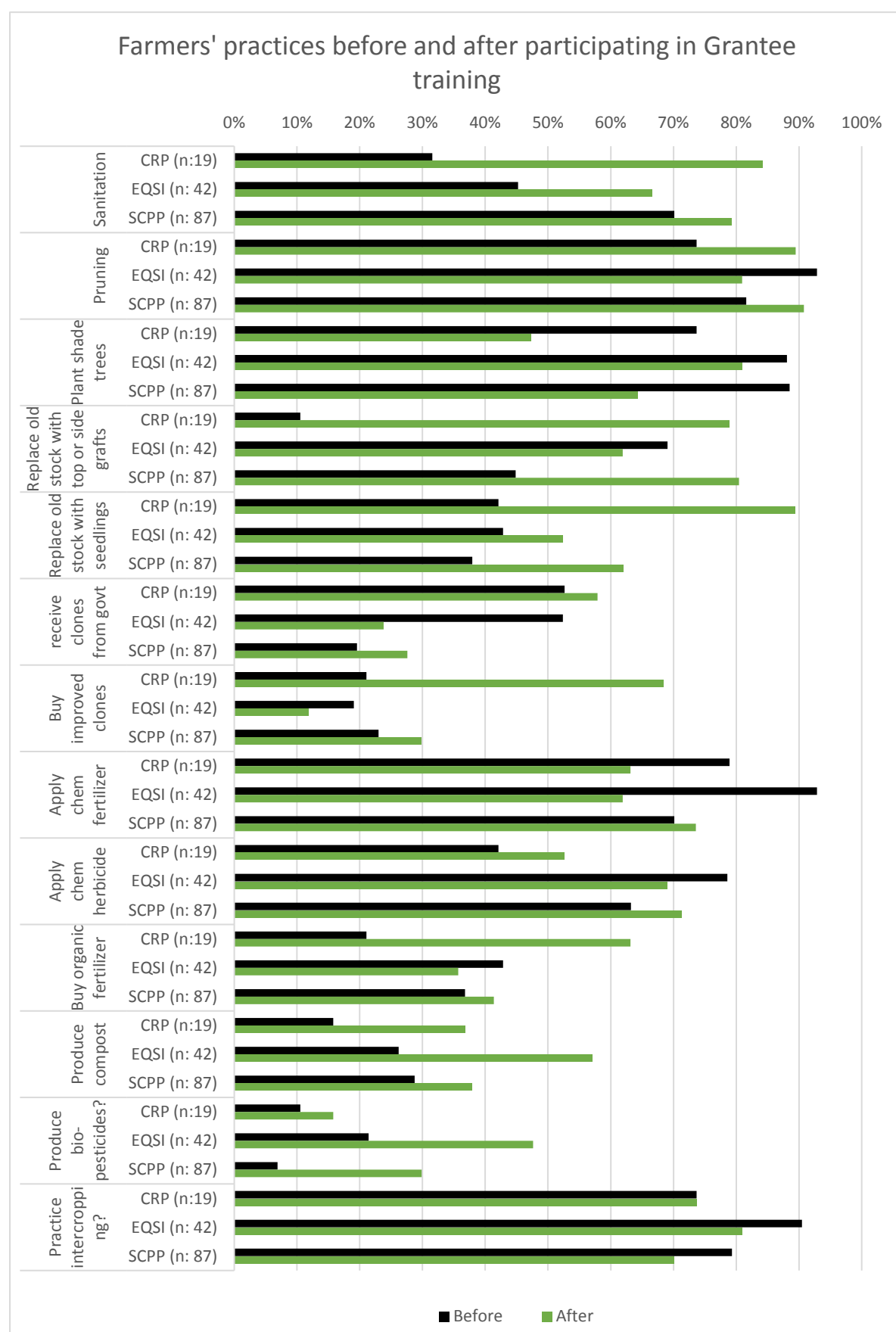
Annex 5. Training Curriculum for GP-SCPP, CR and EQSI

GP-SCPP	Cocoa Revolution	EQSI
9 sessions	9 sessions	5 sessions
GAP module covers topics: <ul style="list-style-type: none"> - Farm management: pruning, frequent harvest and sanitation, shading trees, and rehabilitation. - Chemical and natural pesticides/natural enemy and pest-disease - Soil and plant nutrition 	GAP module covers topics: <ul style="list-style-type: none"> - Pest disease mitigation and natural enemy - Farming management, sanitation, pruning and shading trees management - Seedling propagation - Grafting techniques (side and top grafting) - Organic fertilizer and how to produce natural pesticide 	GAP module (Agroforestry) covers topics: <ul style="list-style-type: none"> - Cocoa farm evaluation. - Soil fertility & soil conservation. - Preparation of soil and replanting. - Rehabilitation of cocoa plants and technical maintenance of cocoa grafting. - Pests and diseases of cocoa plants - Cocoa plant maintenance, pruning, fertilizing, frequent harvesting and sanitation (P3S), and crop management protection. - Planning, grafting & replanting cocoa farms - Technical (organic) composting and bio pesticides.
GEP/Certification module covers topics: <ul style="list-style-type: none"> - Sustainability principles: Local wisdom/knowledge practices, ecosystem, and (environmental) sustainability - Natural management based on a sustainable community - Climate adaptation and resilience 	GEP module covers topics: <ul style="list-style-type: none"> - Climate smart practices and SAN Standard module, focus on traceability system and introducing the concept of climate change, and how to mitigate/minimise the effect of climate change in cocoa farming. 	<ul style="list-style-type: none"> - No GEP modules included in training
Good Financial Practices covers topics: <ul style="list-style-type: none"> - Household financial management - Micro-finance institutions and products - Household financial planning 	Good Financial Practices covers topics: <ul style="list-style-type: none"> - Business skills and financial literacy, focus on book keeping and simple analysis of cocoa farming business outputs - Farmer group development, focus on group financial management and upgrading farmer group into cooperative function. 	Good Financial Practices covers topics: <ul style="list-style-type: none"> - Cocoa based agribusiness (GFP) module, focus on household financial management and for the group level focus on sustaining cocoa nurseries and fermentation centres.
Good Business Practices covers topics: <ul style="list-style-type: none"> - Introducing cocoa farm and agribusiness - Social and environment agribusiness oriented - Cocoa business management - Planning cocoa business 		Reforestation module covers topics: <ul style="list-style-type: none"> - Planning, seedling and nursery management, land preparation and replanting.
Good Nutrition module covers topics: <ul style="list-style-type: none"> - Balance nutrition and deficiency risks - Recognising vulnerable groups - Breast milk practices - Vegetable gardens and fish culture 		Fermentation module covers topics: <ul style="list-style-type: none"> - Fermentation practices and microbiology of fermentation process.

Annex 6: Grantee Progress Towards Select Indicator Targets

Project outputs (short-term)	GP-SCPP			CR			EQSI		
	Target	Actual	% Achieved (end March 2017 Q8)	Target	Actual	% Achieved (end June 2017 Q8)	Target	Actual	% Achieved (end Sep 2017 Q7)
# Farmers trained for GAP	54,145	24,146	44%	8,000	5,711	71%	6,500	3,601	55%
# Farmers trained for GEP	69,741	12,363	18%	8,000	5,911	74%	n/a	n/a	n/a
# Farmers trained for GFP	44,907	17,979	40%	8,000	7,864	98%	7,000	3,040	43%
# Farmers trained in Nutrition	34,511	12,771	37%	n/a	n/a	n/a	n/a	n/a	n/a
# Farmers trained in Fermentation	n/a	n/a	n/a	n/a	n/a	n/a	460	100	21%
# TOT/Master trainers GAP	975	494	76%	-	-	-	500	535	107%
# TOT/Master trainers GEP	438	217	50%	-	-	-	n/a	n/a	n/a
# TOT/master trainers GFP	280	116	41%	-	-	-	n/a	63	-
# TOT/Master trainers Nutrition	245	89	36%	n/a	n/a	n/a	n/a	n/a	n/a
# TOT/Master trainers GBP	376	171	45.5%	n/a	n/a	n/a	n/a	n/a	n/a
# TOT/Master trainers for Fermentation	n/a	n/a	n/a	n/a	n/a	n/a	n/a	100	unknown
# TOT/Master trainers for Silviculture	n/a	n/a	n/a	n/a	n/a	n/a	n/a	604	unknown
% Lead farmers trained on GAP/SAN/Climate Smart Agriculture	30%	n/a	-	80	80	100%	n/a	n/a	n/a
# Demonstration plots established	225	409	182%	40	40	100%	40	40	100%
# Farmer groups active	2699	2222	82.3%	unknown	unknown	unknown	280	238	85%
# Nurseries established	49,750 sqm	31,993 sqm	64%	63	62	83%	20	20	100%

Annex 7: Summary of Mini-survey findings



Annex 8. PSGIP Indicator Monitoring Progress

PSGIP progress for SCPP

	SCPP		
Project outputs (short-term)	Target	Actual	% Achieved (end March 17 Q8)
% Women participating/trained in GAP	20%	19.5%	97.5%
% Women trained as GAP TOT	12%	12%	100%
% Women participating/trained in GFP	50%	45%	90.6%
% Women trained as GFP TOT	25%	38%	150.4%
% Women participating/trained in GEP	20%	17%	84.5%
% Women trained as GEP TOT	12%	17%	141.7%
% Women participating/ trained in GNP	80%	60%	81.8%
% Women trained as GNP TOT	60%	44%	73.5%
% Certified female farmers	50%	16%	31.8%

PSGIP progress for CR

	CR		
Project outputs (short-term)	Target	Actual	% Achieved (end June 17 Q8)
# Women enrolled in OFIS	1600	1850	116%
# Women trained on CSA, yield intensification and PHH	1600	1615	101%
# Women trained on farm business skills	1600	1783	111%
# Women heads of household receiving quality based incentives	1511	500	33%
# Farms managed by women heads of household meeting CSA compliance	1500	unknown	unknown
# Certified female farmers	500	Scheduled Q9 (July-Sep 17)	unknown
# Poor farmers registered in OFIS	1500	Poor farmers cannot be accurately identified in CR monitoring system, so these results are unable to be measured	
# Poor farmers trained on farm business skills	1500		
# poor farmers trained on CSA, yield intensification and PHH	1500		

PSGIP progress for EQSI

	EQSI		
Project outputs (short-term)	Target	Actual	% Achieved (end Sep 17 (Q7)
# Women participating/trained in reforestation	750	223	30%
# Women participating/trained in GAP	1000	845	85%
# Women participating/trained in GFP	1400	959	69%
# Women trained in PHH and fermentation	78	unknown	unknown

Annex 9. Study Protocols

Consent Statement

Thank you for taking the time to meet with us today. I would like to ask you some questions about your views on the Green Prosperity cocoa grant portfolio including the Swisscontact Sustainable Cocoa Production Program, Rainforest Alliance Cocoa Revolution and Yayasan Kalla's Economic Quality and Sustainability Improvement program. The objective of this research is to improve the performance of projects like GP-SCPP/EQSI/Cocoa Revolution. The information may be used by other organizations as well. There is no direct benefit to MCC for your participation in this study. The purpose is only to help us improve the services of projects like this one. This information will be used in a final report for MCC that will be publicly available.

It is important to understand that while we would like your help in this study, you do not have to take part if you do not want to, and you do not have to answer any questions if you do not feel comfortable doing so. As your participation is entirely voluntary, you may choose not to be recorded, refrain from answering any question and end the interview at any time. If you choose not to participate, it will not impact you negatively, and we will not disclose it to anyone. If you decide to take part, your responses will be kept strictly confidential. If you agree, this session will be recorded but names will not be put into the transcriptions and the audio files will be encrypted. Moreover, Frances, Leah, Duman or Hiswaty will be taking notes. We will only use your contact information if we need clarification on any of the items we discuss today, and your name will not be shared with anyone outside of our team. This means that your name will not be mentioned anywhere in the report, and will not be provided to anyone, including Swisscontact/RA/Kalla or anyone in your community or agency. Any personal information we collect today will be stored in a secure computer file.

Uses of the Information

The information we receive from you will be used for research purposes only. The final study that summarizes this research *may* contain quotations from the sessions we conduct, but the MCC team will make every effort to ensure that no one can be identified using these quotations.

After the research is completed, MCC and Social Impact will remove any identifying information from the transcripts and notes – such as names, dates, and specific locations – so that these sources may be made available for other researchers to use. Social Impact and MCC will require others who request access to this information to agree to use it for research purposes only and not to share this information with anyone else. In this way, we hope to ensure that others may benefit from the responses you provide, without risking your privacy.

The interview is expected to take about 60 minutes.

Do you have any questions? You may ask questions at any time. If you have questions or concerns about the research after we leave today, you can contact Leah Ghoston (lghoston@socialimpact.com).

By saying “yes,” and participating in this study, you are indicating that you have heard this consent statement, had an opportunity to ask any questions about your participation and voluntarily consent to participate. Will you participate in this interview? You may answer yes or no.

- ☐ Yes, I will participate
- ☐ No, I will not participate

Interview date and location:

Interviewer:

Title(s):

Name(s):

Sex:

EQ 1: To what extent have the GP Cocoa grants' (Cocoa Revolution, GP-SCPP and EQSI) training approaches proven successful in improving farmers' knowledge, attitudes and practice of GAP/GEP?

1. Do you have any comments about the training that has been provided to participants through the grants? Do you think it has been effective? Do you have a perspective on levels of adoption of the training? Is there any particular aspect of the training that you would like the Evaluation Team to explore?
2. Do you have any views on the grantees' selection of beneficiaries? Do you think there have been sufficient new participants in the program? Have they done enough to ensure sufficient numbers of women participate in the training and benefit fully from the program? Do you think the poor and disadvantaged are included in the program? Are there any strategies to ensure they benefit fully from the program?

EQ 2: How has each grant progressed in achieving its short and medium-term outcomes, and what is the likelihood of achieving long-term outcomes?

1. Value chain strengthening programs are generally focused on building new or strengthening existing business practices and relationships along the value chain. Can you comment on any business practices and or relationships that have been developed by the grantees and how successful have these been? (*input markets, financial services, post-harvest processing and marketing arrangements*)
2. In what way have these business relationships helped farmers? Are the new/improved business relationships or practices likely to be sustained in the longer term? Why or why not?
3. What has the program achieved in terms of environmental management and reducing GHGs? Do you think the model that due to capacity building and other support from the grants, farmers will reduce fertilizer use and refrain from land expansion has been implemented in reality on the project? To what extent do you think participating farmers changed their GHG producing behavior now compared with in 2015 when the program started? What have been the strengths and weaknesses of the approach? What are the opportunities and risks moving forward?
4. What external factors do you see currently affecting cocoa farmers and how might these affect the outcomes of the program? (probe land tenure, weather, price) What changes have there been in the implementing context since the program commenced that may affect outcomes (probe economy, weather, market)?

For gender and social inclusion MCA-I expert only:

5. Are there specific challenges that women in cocoa farming face (*prompt: transportation, workload, training inclusion, role in production and post-harvest*)? Do you think the program has helped women to address some of these challenges? Can you talk about the program's achievements in gender and social inclusion? What are the key issues, strategies employed, achievements and

remaining challenges? What do you see as the challenges and opportunities facing women, ethnic minorities and other vulnerable groups moving forward?

EQ 3: What evidence is there that results or outcomes of the GP Cocoa grants will be further scaled and sustainable, and what results appear to be less sustainable? Why?

1. To what extent do you think the benefits of the project will be ongoing for beneficiary farmers? What might be the pathway through which benefits could be maintained?
2. How do you see the future of cocoa farming in Indonesia and in the various regions (e.g. Sulawesi, NTT)?

EQ 4: What aspects of the GP Cocoa grant approaches have proven to be most relevant in meeting the needs of the Indonesian cocoa sector?

1. How do the grants fit within the Government's program to strengthen the cocoa sector and support cocoa farmers to achieve improved income? Is the program compatible with the Government's support? Why or why not?
2. What do you think are the differences in implementing in different regional areas? How have these differences affected progress on the program?
3. Is there anything that you have learned from this program that you would be able to share with us that might be applicable for other similar programs in the future? Are there particular issues that you would like us to explore lessons learned in relation to?

Grant specific questions

GP-SCPP specific question

What do you think of the different certification schemes that GP-SCPP is working with? What are the strengths and weaknesses of different schemes in terms of costs and benefits to farmers? How do you see the trajectory of the various schemes in Indonesia? Do you think the number of farmers who will join will continue to grow? Why or why not? (EQ2)

CR specific questions

What is your opinion of SAN certification as it is being implemented under the CR program? Has it worked well for farmers? Do you think the incentive payments compensate for the extra work required for SAN certification? How about the cocoa price? (EQ2)

Do you have any comments about the solar dryer program? Has it worked well for farmers? Do you think the increased price farmers receive for using solar dryers is worth the effort involved?

Do you have a view on the implementation of climate smart agriculture under CR? What are the enabling and constraining factors to adoption? Do you think its been effective in reducing tree cover loss or increasing tree cover? (EQ2)

EQSI specific question

How do you view progress on the EQSI fermentation program? (EQ2) Do you have any views on the EQSI agroforestry program? What challenges for farmers of adopting cocoa agroforestry and what are the benefits? What is the likelihood of cocoa monoculture vs cocoa agroforestry among project beneficiaries?

KII Guide – Grantee Central Program Director, Program Managers, Regional Program Managers

Interview date and location:

Interviewer:

Title(s):

Name(s):

Sex:

EQ 1: To what extent have the GP Cocoa grants' (Cocoa Revolution, GP-SCPP and EQSI) training approaches proven successful in improving farmers' knowledge, attitudes and practice of GAP/GEP?

1. What are you trying to achieve through the GAP/GEP training that you provide to farmers? How do you determine what is important for farmers to be trained on?
2. How are farmers targeted for participation? What were your criteria for selecting farmers to participate in the program? Were you able to adhere to these criteria? Why/why not?
3. How do you anticipate that the training will change farmer behavior and practices? How do
4. Is the content provided through the training new to the majority of selected farmers? Which aspects are new to farmers and which aspects are already familiar to them?
5. What, if anything, has been challenging about providing the training? (Probe- attendance, farmer skill level, literacy, timing, etc.) If you have had challenges, how have you overcome them?
6. How can you measure the likelihood that farmers apply and adopt approaches learned in training? (probe: *feedback forms, follow-up, observations*) What have you noticed so far about farmer's adoption of training content?
7. Are there any strategies to ensure sufficient numbers of women participate in the training? Are there any strategies to ensure they benefit fully from the program? If so, how effective have they been?
8. Are there any strategies to ensure the poor and disadvantaged are included in the program? Are there any strategies to ensure they benefit fully from the program? If so, how effective have they been?

EQ 2: How has each grant progressed in achieving its short and medium-term outcomes, and what is the likelihood of achieving long-term outcomes?

1. Have you experienced any new or improved business relationships or practices with farmers under this program? (Probe- *input markets, financial services, post-harvest processing and marketing arrangements*) If no, why do you think this is?
 - a. If so, please give an example of these relationships or practices and explain the benefits. In what way are these business practices different now to how they were at the commencement of the program in 2015?
2. In what way do these business relationships help farmers? Have they resulted in increased income for farmers? Why and why not? Are the new/improved business relationships or practices likely to be sustained in the longer term? Why or why not?
3. What methods are used to verify and document the number of participants trained, number of hectares of sustainable product, fertilizer use and farm yields? How reliable do you think these methods are?

4. What has the program achieved in terms of environmental management and reducing GHGs? How have participating farmers changed their GHG producing behavior now compared with in 2015 when the program started? What have been the strengths and weaknesses of your approach? What are the opportunities and risks moving forward?
5. Are there independent external factors that affect cocoa farmer income that the program is not able to influence?
 - a. What are they and how do they affect farmers' ability to maintain benefits from the program in the longer term? What changes have there been in the implementing context since the program commenced that may affect outcomes (*probe economy, weather, market*)?
6. Are there specific challenges that women in cocoa farming face (*prompt: transportation, workload, training inclusion, role in production and post-harvest*)?
 - a. Do you think the program has helped women to address some of these challenges? Can you talk about the program's achievements in gender and social inclusion? (*probe: key issues, strategies employed, achievements and remaining challenges*)?
 - b. What do you see as the challenges and opportunities facing women, ethnic minorities and other vulnerable groups moving forward?

EQ 3: What evidence is there that results or outcomes of the GP Cocoa grants will be further scaled and sustainable, and what results appear to be less sustainable? Why?

1. Do you plan to continue working with these farmers after the close of the MCA grant and if so, how so? If not, what is your strategy to ensure the sustainability of their work?
2. Which actors are key to ensure the benefits are sustained beyond grant funding? What do they need to do to maximize the likelihood of sustainability after the conclusion of the program?
3. Are there independent external factors that affect cocoa farmer income that the program is not able to influence? What are they and how do they affect farmers' ability to maintain benefits from the program in the longer term?
4. How do you see the future of cocoa farming in Indonesia and in the various regions (e.g. Sulawesi, NTT)?

EQ 4: What aspects of the GP Cocoa grant approaches have proven to be most relevant in meeting the needs of the Indonesian cocoa sector?

1. How does the program fit within the Government's program to strengthen the cocoa sector and support cocoa farmers to achieve improved income? Is the program compatible with the Government's support? Why or why not?
2. Have grantees received any feedback from companies, farmer associations, co-ops and GOI? What is done with this feedback?
3. Do you find differences in implementing in different regional areas? How have these differences affected progress on the program?

4. To what extent does participating in organizations help farmers to earn and learn? Are there any negative effects?
5. Is there anything that you have learned from this program that you would be able to share with us that might be applicable for other similar programs in the future?

Grant specific questions

GP-SCPP specific question

What different certification schemes do you interact with? What are the strengths and weaknesses of different schemes in terms of costs and benefits to farmers? How do you see the trajectory of the various schemes in Indonesia? Do you think the number of farmers who will join will continue to grow? Why or why not? (EQ2)

CR specific questions

How has implementation of the SAN Certification incentive payments been going? Has it worked well for farmers? Do you think the incentive payments compensate for the extra work required for SAN certification? How about the cocoa price? (EQ2)

How has the implementation of the solar dryer program been going? Has it worked well for farmers? Do you think the increased price farmers receive for using solar dryers is worth the effort involved?

How has the implementation of climate smart agriculture been going? Are farmers ~~they~~ responsive to the content? What are the enabling and constraining factors to adoption? Are you able to effectively monitor tree cover with the OFES system? Have you been able to reduce tree cover loss or increase tree cover? (EQ2)

EQSI specific question

Where do you source your fermented beans? What do you think are the challenges of doing fermentation by farmers? How to address those generally and by this project? What do you think of the prices you pay for fermented beans comparing with ordinary beans? Do the price you receive for fermented beans justify the investment? Do you have any specific grading system? What are they? Do you think that your existing supply would continue? Why? (EQ2)

How is the agroforestry program going? What are the challenges for farmers of adopting cocoa agroforestry and what are the benefits? What is the likelihood of cocoa monoculture vs cocoa agroforestry among project beneficiaries?

KII Guide – Program Technical Specialists

Interview date and location:

Interviewer:

Title(s):

Name(s):

Sex:

EQ 1: To what extent have the GP Cocoa grants' (Cocoa Revolution, GP-SCPP and EQSI) training approaches proven successful in improving farmers' knowledge, attitudes and practice of GAP/GEP?

1. What are you trying to achieve through the GAP/GEP training that you provide to farmers? How do you determine what is important for farmers to be trained on?
2. How are farmers targeted for participation?
3. How do you anticipate that the training will change farmer behavior and practices? Which modules/components do you think are most useful to farmers? Which modules/components are less useful? Are there any areas that you think should be included in the curriculum that are not? What areas of the training should benefit farmers in the short term? What about the long-term?
4. Is the content provided through the training new to the majority of farmers? Which aspects are new to farmers and which aspects are already familiar to them?
5. What, if anything, has been challenging about providing the training? (Probe- attendance, farmer skill level, literacy, timing, etc.) If you have had challenges, how have you overcome them?
6. How can you measure the likelihood that farmers apply and adopt approaches learned in training? (probe: *feedback forms, follow-up, observations*) What have you noticed so far about farmer's adoption of training content?

EQ 2: How has each grant progressed in achieving its short and medium-term outcomes, and what is the likelihood of achieving long-term outcomes?

1. Have you experienced any new or improved business relationships or practices with farmers under this program? (Probe- *input markets, financial services, post-harvest processing and marketing arrangements*) If no, why do you think this is?
 - a. If so, please give an example of these relationships or practices and explain the benefits. In what way are these business practices different now to how they were at the commencement of the program in 2015?
2. In what way do these business relationships help farmers? Have they resulted in increased income for farmers? Why and why not? Are the new/improved business relationships or practices likely to be sustained in the longer term? Why or why not?
3. What methods are used to verify and document the number of participants trained, number of hectares of sustainable product, fertilizer use and farm yields? How reliable do you think these methods are?

4. What has the program achieved in terms of environmental management and reducing GHGs? What have been the strengths and weaknesses of your approach? What are the opportunities and risks moving forward?
5. Are there independent external factors that affect cocoa farmer income that the program is not able to influence? What are they and how do they affect farmers' ability to maintain benefits from the program in the longer term? What changes have there been in the implementing context since the program commenced that may affect outcomes (probe economy, weather, market)?
6. Are there specific challenges that women in cocoa farming face (*prompt: transportation, workload, training inclusion, role in production and post-harvest*)? Do you think the program has helped women to address some of these challenges? Can you talk about the program's achievements in gender and social inclusion? What are the key issues, strategies employed, achievements and remaining challenges? What do you see as the challenges and opportunities facing women, ethnic minorities and other vulnerable groups moving forward?

EQ 3: What evidence is there that results or outcomes of the GP Cocoa grants will be further scaled and sustainable, and what results appear to be less sustainable? Why?

1. Have program stakeholders done anything to ensure sustainability of program achievements for farmers following the end of the program? If so, please give examples. If not, why do you think this is?
2. Do you think these relationships are likely to continue after the program ends? In the medium term? In the long term? What factors might make this more or less likely?
3. Who are the key actors or organizations that will be able to help to ensure benefits are sustainable? What do they need to do to maximize the likelihood of sustainability?
4. What do you see as the likely future trends in the global cocoa market? How do you envision this will affect (i) farmers' ability to continue improved cocoa farming? (ii) and farmers' income?
5. How do you see the future of cocoa farming in Indonesia and in the various regions (e.g. Sulawesi, NTT)?

EQ 4: What aspects of the GP Cocoa grant approaches have proven to be most relevant in meeting the needs of the Indonesian cocoa sector?

1. Is there anything that you have learned from this program that you would be able to share with us that might be applicable for other similar programs in the future?

Grant specific questions

GP-SCPP specific question

What different certification schemes do you interact with? What are the strengths and weaknesses of different schemes in terms of costs and benefits to farmers? How do you see the trajectory of the various schemes in Indonesia? Do you think the number of farmers who will join will continue to grow? Why or why not?

CR specific questions

How has implementation of the SAN Certification incentive payments been going? Has it worked well for farmers? Do you think the incentive payments compensate for the extra work required for SAN certification? How about the cocoa price? (EQ2)

How has the implementation of climate smart agriculture been going? Are beneficiaries responsive to the content? What are the enabling and constraining factors to adoption? Are you able to effectively monitor tree cover with the OFES system? Have you been able to reduce tree cover loss or increase tree cover? (EQ2)

How has the implementation of the solar dryer program been going? Has it worked well for farmers? Do you think the increased price farmers receive for using solar dryers is worth the effort involved?

EQSI specific question

Are the prices you receive you have any specific grading system? What are they? Do you think that your existing supply would continue? Why? (EQ2)

How is the agroforestry program going? What challenges for farmers of adopting cocoa agroforestry and what are the benefits? What is the likelihood of cocoa monoculture vs cocoa agroforestry among project beneficiaries?

KII Guide – Private Sector Representatives (Consortium Partners)

Interview date and location:

Interviewer:

Title(s):

Name(s):

Sex:

EQ 1: To what extent have the GP Cocoa grants' (Cocoa Revolution, GP-SCPP and EQSI) training approaches proven successful in improving farmers' knowledge, attitudes and practice of GAP/GEP?

1. What role does your company play in the delivery of training?
2. What is your opinion of the approach to training on this project, including the content and the training method? Does it suit the needs of the farmers?
3. Which modules/components do you think are most useful to farmers? Which modules/components are less useful?
4. Is the content provided through the training new to the majority of farmers? Which aspects are new to farmers and which aspects are already familiar to them?
5. Do you have suggestions that you think may improve the training?

EQ 2: How has each grant progressed in achieving its short and medium-term outcomes, and what is the likelihood of achieving long-term outcomes?

EQ 3: What evidence is there that results or outcomes of the GP Cocoa grants will be further scaled and sustainable, and what results appear to be less sustainable? Why?

1. What role does your company play in helping farmers (as part of the program)?
 - i. access to financial services
 - ii. access to collateral
 - iii. access to inputs such as planting material and fertilizer
 - iv. access to markets and better prices
 - v. additional income streams or other livelihood benefits?
2. Have you experienced any new or improved business relationships or practices with farmers under this program? (*Probe- input markets, financial services, post-harvest processing and marketing arrangements*) If no, why do you think this is? If so, please give an example of these relationships or practices and explain the benefit. In what way are these business practices different now to how they were at the commencement of the program in 2015?
3. In what way do these business relationships impact farmers? Have they resulted in increased income for farmers? Why and why not?
4. Do you think these new/strengthened practices and relationships are likely to continue after the program ends? Why or why not? What needs to be done to maximize the chances of these relationships being sustained?

5. Are there independent external factors that affect cocoa farmer income that the program is not able to influence? What are they and how do they affect farmers' ability to maintain benefits from the program in the longer term? What changes have there been in the implementing context since the program commenced that may affect outcomes (probe economy, weather, market)?
6. Are there specific challenges that women in cocoa farming face (prompt: transportation, workload, training inclusion, role in production and post-harvest)? Do you think the program has helped women to address some of these challenges?
7. What is your company's approach to addressing gender and social inclusion in your cocoa business? What are the key challenges facing women in cocoa? Can you identify any achievements you have made in terms of promoting women in leadership roles in farmer organizations, protecting ethnic minorities and vulnerable group? What do you see as the challenges and opportunities facing women, ethnic minorities and other vulnerable groups moving forward?
8. What do you think is the future of cocoa in this area? What do you see as the likely future trends in the global cocoa market? How do you envision this will affect farmers' income and the income of your company?
9. What support will you continue to provide after the program ends? What areas do you think are most important to uphold? If you do not plan to provide continued support, why?

EQ 4: What aspects of the GP Cocoa grant approaches have proven to be most relevant in meeting the needs of the Indonesian cocoa sector?

1. Do you find differences in implementing in different regional areas? If so, how have these differences affected progress on the program? Is there anything that could resolve regional challenges?
2. To what extent does participating in organizations help farmers to earn and learn? Are there any negative effects?
3. Is there anything that you have learned from this program that you would be able to share with us that might be applicable for other similar programs in the future?

Grant specific questions

GP-SCPP specific question

What different certification schemes does your company employ? Why did you select that particular scheme? What do you think are the strengths and weaknesses of the scheme you have chosen in terms of costs and benefits to farmers? How do you see the trajectory of the various schemes in Indonesia? Do you think the number of farmers who will join will continue to grow? Why or why not? (EQ2)

CR specific question

How has implementation of the SAN Certification incentive payments been going? Has it worked well for farmers? Do you think the incentive payments compensate for the extra work required for SAN certification? How about the cocoa price? (EQ2)

How has the implementation of climate smart agriculture been going? Are they responsive to the content? What are the enabling and constraining factors to adoption? Are you able to effectively monitor tree cover with the OFES system? Have you been able to reduce tree cover loss or increase tree cover? (EQ2)

EQSI specific question

What proportion of your suppliers are fermenting beans? What challenges are there for farmers in fermenting beans? How can these challenges be addressed? How does the project address those challenges? What did work and what did not? What are the ideal conditions (price, support, etc.) so that all your members would do fermentation? In the future do you think that many of your members will ferment their cocoa? Why or why not? (EQ2)

KII Guide – Government Representatives (BAPPEDA, Department of Plantations)

Interview date and location:

Interviewer:

Title(s):

Name(s):

Sex:

EQ 1: To what extent have the GP Cocoa grants' (Cocoa Revolution, GP-SCPP and EQSI) training approaches proven successful in improving farmers' knowledge, attitudes and practice of GAP/GEP?

1. What is your opinion of the approach to training on this project, including the content and the training method? Does it suit the needs of the farmers?
2. How can you measure the likelihood that farmers apply and adopt approaches learned in training? (*probe: feedback forms, follow-up, observations*) What have you noticed so far about farmer's adoption of training content?
3. Which modules/components do you think are most useful to farmers? Which modules/components are less useful? Are there any areas that you think should be included in the curriculum that are not?
4. Is the content provided through the training new to the majority of farmers? Which aspects are new to farmers and which aspects are already familiar to them?
5. How does the training under the Cocoa grants differ from previous government training?

EQ 2: How has each grant progressed in achieving its short and medium-term outcomes, and what is the likelihood of achieving long-term outcomes? and EQ 3: What evidence is there that results or outcomes of the GP Cocoa grants will be further scaled and sustainable, and what results appear to be less sustainable? Why?

1. Can you tell me a bit about the Government's strategy for cocoa development? Nationally? In this district?
2. How does each grant fit within the Government's program to strengthen the cocoa sector and support cocoa farmers to achieve improved income? Is the program compatible with the Government's support? Why or why not?
3. Have the grants helped business models or relationships to provide support in input markets, post-harvest processing and product marketing? Do you think these will be maintained beyond the life of the program? Why or why not? In what way are these business practices different now to how they were at the commencement of the program in 2015?
4. What has the program achieved in terms of environmental management and reducing GHGs? Do you think the program has been successful in facilitating farmers to reduce fertilizer use and prevent land expansion. What have been the strengths and weaknesses of the approach? What are the opportunities and risks moving forward? How have participating farmers changed their behavior in relation to land expansion and the amount of fertilizer applied now compared with in 2015 when the program started?

5. What is the exit strategy for the grants? What needs to be done to ensure that successful models are maintained?
6. Are there independent external factors that affect cocoa farmer income that the program is not able to influence? What are they and how do they affect farmers' ability to maintain benefits from the program in the longer term? What changes have there been in the implementing context since the program commenced that may affect outcomes (probe economy, weather, market)?
7. Are there specific challenges that women in cocoa farming face (prompt: transportation, workload, training inclusion, role in production and post-harvest)? Do you think the program has helped women to address some of these challenges?

EQ 3: What evidence is there that results or outcomes of the GP Cocoa grants will be further scaled and sustainable, and what results appear to be less sustainable? Why?

1. In regard to the improved:
 - i. access to financial services
 - ii. access to collateral
 - iii. access to inputs
 - iv. access to markets and better prices
 - v. additional income streams or other livelihood benefits?

To what extent do you think farmers will continue to reap these benefits after the program ends? In the medium term? In the long term? What factors might make this more or less likely?

2. What do you see as the likely future trends in the global cocoa market? How do you envision this will affect (i) farmers' ability to continue improved cocoa farming? (ii) and farmers' income?
3. Who are the key actors or organizations that will be able to help to ensure benefits are sustainable? What do they need to do to maximize the likelihood of sustainability?

EQ 4: What aspects of the GP Cocoa grant approaches have proven to be most relevant in meeting the needs of the Indonesian cocoa sector?

1. Are there any challenges related to the cocoa sector that are specific to your region and different to other regions? If so, how have these differences affected progress on the program? How could these challenges be addressed?
2. To what extent does participating in organizations help farmers to earn and learn? Are there any negative effects?
3. Is there anything that you have learned from this program that you would be able to share with us that might be applicable for other similar programs in the future? Are there lessons from this program that the Government may apply to other programs?

Grant specific questions

GP-SCPP specific question

What are the strengths and weaknesses of different certification schemes supported by GP-SCPP in terms of costs and benefits to farmers? How do you see the trajectory of the various schemes in Indonesia? Do you think the number of farmers who will join will continue to grow? Why or why not?

CR specific questions

What is your view of the SAN Certification incentive payments? Has the system worked well for farmers? Do you think the incentive payments compensate for the extra work required for SAN certification? How about the cocoa price?

What are your views on the implementation of climate smart agriculture on the CR project?

What are your views on the implementation of the solar dryer program on the CR project?

EQSI specific questions

How do you see the state of fermentation in your area? Do you think the EQSI program's efforts to support fermentation have been effective? Do you see it as having a future? Why or why not?

What is your opinion about the agroforestry program supported by Yayasan Kalla in your district? What are the challenges for farmers of adopting cocoa agroforestry and what are the benefits?

KII Guide – Buying Stations

Interview date and location:

Interviewer:

Title(s):

Name(s):

Sex:

Questions:

1. Tell me about the main objectives of your business at the moment as it relates to buying cocoa. What are you looking for (probe- uniformity of beans, color, size, wet, dry, etc.)? What challenges exist in buying cocoa? (probe- accessibility, pricing considerations, competition, quality, quantity)
2. Do you buy cocoa from farmers participating in the GP-SCPP/CR/EQSI program?
3. Please describe the quality and standard of the cocoa you are currently receiving from farmers under this program. Does the product meet your needs?
4. What are the enabling and constraining factors for farmers to provide good quality cocoa? What factors specifically related to GEP/GAP?
5. Has farmers' involvement in the GP-SCPP/CR/EQSI program resulted in them providing better quality cocoa? Why or why not?
6. What qualities of the cocoa product can affect the price that the farmers receive? How?
7. As far as your business is concerned, do you require cocoa to be fermented? If so, what are the benefits of this process for your business? If you do not require fermentation, why?
8. Has farmers' involvement in the program resulted in more of them producing fermented cocoa? Why or why not?
9. How does fermentation affect the price that farmers receive?
10. Do farmers ever have challenges reaching your buying station? If yes, what is the reason for this? What might make it easier for them to get there?
11. What do you expect will happen for your suppliers when projects like this one end? Will they still be able to continue providing the same quality and yield?
12. What support do you think is most critical for improving quality and yield for smallholder cocoa farmers?

KII Guide – Local Community Leaders

Interview date and location:

Interviewer:

Title(s):

Name(s):

Sex:

EQ 1: To what extent have the GP Cocoa grants' (Cocoa Revolution, GP-SCPP and EQSI) training approaches proven successful in improving farmers' knowledge, attitudes and practice of GAP/GEP?

1. How you think that participants have responded to the training? Do you think it has helped them? Why or why not? Which modules/components do you think are most useful to farmers? Which modules/components are less useful?
2. Is the content provided through the training new to the majority of farmers? Which aspects are new to farmers and which aspects are already familiar to them?
3. Do you think the training on cocoa production has helped farmers to improve their cocoa production? Why or why not?

EQ 2: How has each grant progressed in achieving its short and medium-term outcomes, and what is the likelihood of achieving long-term outcomes? EQ 3: What evidence is there that results or outcomes of the GP Cocoa grants will be further scaled and sustainable, and what results appear to be less sustainable? Why? EQ 4: What aspects of the GP Cocoa grant approaches have proven to be most relevant in meeting the needs of the Indonesian cocoa sector?

1. What is the role of cocoa farming for the local economy? What role does it play in household livelihoods?
2. Do you think the program has helped to strengthen the role of cocoa in the local economy and household livelihoods? Why or why not?
3. What kind of support systems and services do you think are important to ensure farmers are successful? (Probe- farmer groups/organizations, family involvement, private sector/public sector, unions, access to finance, access to markets) Why?
4. Have you witnessed any changes in farmers' behavior as a result of the program (i.e. since 2015)? If so, please give examples (*Probe- accessing inputs, marketing cocoa, processing cocoa*). Why do you think these changes occurred? If not, why do you think there haven't been any changes?
5. What has the program achieved in terms of environmental management and reducing GHGs? Do you think the program has been successful in facilitating farmers to reduce fertilizer use and prevent land expansion. What have been the strengths and weaknesses of the approach? What are the opportunities and risks moving forward? How have participating farmers changed their ~~their GHG-producing~~ behavior in relation to land expansion and the amount of fertilizer applied now compared with in 2015 when the program started?
6. Do you think these new arrangements are better than what they had before the program commenced in 2015? Are they likely to continue after the program ends? Why or why not?

7. What changes have there been in the implementing context since the program commenced in 2015 that may affect outcomes (probe economy, weather, market)?
8. Are there specific challenges that women in cocoa farming face (*probe: transportation, workload, training inclusion, role in production and post-harvest*)? Do you think the program has helped women to address some of these challenges?
9. Are there any lessons that they think have come out of the program that you could share with the ET?

Grant specific questions

GP-SCPP specific question

What are the strengths and weaknesses of different certification schemes supported by GP-SCPP in terms of costs and benefits to farmers? How do you see the trajectory of the various schemes in Indonesia? Do you think the number of farmers who will join will continue to grow? Why or why not?

CR specific questions

What is your view of the SAN Certification incentive payments? Has the system worked well for farmers? Do you think the incentive payments compensate for the extra work required for SAN certification? How about the cocoa price?

What are your views on the implementation of climate smart agriculture on the CR project?

What are your views on the implementation of the solar dryer program on the CR project?

EQSI specific questions

What are your views on the implementation of the fermentation program on the EQSI project?

How do you see the state of fermentation in your area? Do you see it as having a future? Why or why not?

KII Guide – Project Staff at Field-Level

Interview date and location:

Interviewer:

Title(s):

Name(s):

Sex:

EQ 1: To what extent have the GP Cocoa grants' (Cocoa Revolution, GP-SCPP and EQSI) training approaches proven successful in improving farmers' knowledge, attitudes and practice of GAP/GEP?

1. What is your opinion of the approach to training on this project, including the content and the training method? Does it suit the needs of the farmers? What are the strengths and weaknesses of the approach? How do you think it could be improved? Which modules/components do you think are most useful to farmers? Which modules/components are less useful?
2. Is the content provided through the training new to the majority of farmers? Which aspects are new to farmers and which aspects are already familiar to them?
3. Do you think the training on cocoa production has helped farmers to improve their cocoa production? Why or why not?

EQ 2: How has each grant progressed in achieving its short and medium-term outcomes, and what is the likelihood of achieving long-term outcomes? EQ 3: What evidence is there that results or outcomes of the GP Cocoa grants will be further scaled and sustainable, and what results appear to be less sustainable? Why? EQ 4: What aspects of the GP Cocoa grant approaches have proven to be most relevant in meeting the needs of the Indonesian cocoa sector?

1. What is the role of cocoa farming for the local economy? What role does it play in household livelihoods?
2. Do you think the program has helped to strengthen the role of cocoa in the local economy and household livelihoods? Why or why not?
3. What kind of support systems do you think are important to ensure farmers are successful? (Probe- farmer groups/organizations, family involvement, private sector/public sector, unions) Why?
4. Have you witnessed any changes in farmers' practices as a result of the program (i.e. since 2015)? If so, please give examples (*Probe- accessing inputs, marketing cocoa, processing cocoa*). Why do you think these changes occurred? What activities are likely to continue, and why? If not, why do you think there haven't been any changes?
5. What has the program achieved in terms of environmental management and reducing GHGs? How have participating farmers changed their GHG producing behavior now compared with in 2015 when the program started? What have been the strengths and weaknesses of the approach? What are the opportunities and risks moving forward?

6. Are there specific challenges that women in cocoa farming face (prompt: transportation, workload, training inclusion, role in production and post-harvest)? Do you think the program has helped women to address some of these challenges?
7. Do you think new business relationships brought about by the program will continue into the medium and long term? Who are the key actors or organizations that will be able to help to ensure new and improved practices and relationships are sustainable? What do they need to do to maximize the likelihood of sustainability?
8. What changes have there been in the implementing context since the program commenced that may affect outcomes (probe economy, weather, market)?
9. What do you see as the future of cocoa farming in this area? What do you see as the likely future trends in the global cocoa market? How do you envision this will affect (i) farmers' ability to continue improved cocoa farming? (ii) and farmers' income? What about government policy? What role does this play?
10. Are there any lessons that they think have come out of the program that you could share with the ET?
11. Have you received any feedback from companies, farmer associations, co-ops and GOI? What is done with this feedback?
12. Is there anything that you have learned from this program that you would be able to share with us that might be applicable for other similar programs in the future?

Grant specific questions

GP-SCPP specific question

What different certification schemes do you interact with? What are the strengths and weaknesses of different schemes in terms of costs and benefits to farmers? How do you see the trajectory of the various schemes in Indonesia? Do you think the number of farmers who will join will continue to grow? Why or why not? (EQ2)

CR specific questions

How has implementation of the SAN Certification incentive payments been going? Has it worked well for farmers? Do you think the incentive payments compensate for the extra work required for SAN certification? How about the cocoa price? (EQ2)

How has the implementation of climate smart agriculture been going? Are beneficiaries responsive to the content? What are the enabling and constraining factors to adoption? Are you able to effectively monitor tree cover with the OFES system? Have you been able to reduce tree cover loss or increase tree cover? (EQ2)

EQSI specific question

What do you think the challenges of doing fermentation by farmers? How do you think these address those generally and by this project? (EQ2)

FGD Guide - Project Beneficiaries

Interview date and location:

Interviewer:

Province/District/Village:

Total Participants (number):

Youth (number):

Sex (number): Males: Females:

EQ 1: To what extent have the GP Cocoa grants' (Cocoa Revolution, GP-SCPP and EQSI) training approaches proven successful in improving farmers' knowledge, attitudes and practice of GAP/GEP?

1. How long have you been farming in the cocoa sector?
2. What types of training have you participated in? Have you been trained more than once in any specific area? If so, how often have you been trained and in what areas?
3. Which modules/components do you think are most useful to you? Which modules/components are less useful? Was anything not so useful? Was there anything you wanted to learn, but did not? (Probe- specific to GEP? Specific to GAP?) Do you think you will continue the practices that you have learned through the training? Why or why not?
4. How were you selected to join the cocoa training? Do you know how farmers are selected for the training? If so, what is the criteria? Do you see any problems with how farmers are selected? If so, what are they and why?
5. Have you made any changes to your techniques or approaches to farming since mid 2015 the training? If so, what are you doing that you were not doing before, and why did you decide to implement these changes? Are there any techniques or approaches you were doing before that you are not doing now?
6. Have you seen any differences in your farming? (*Probe- increases in production? Pest management? Fermentation, solar drying? Compost production? Fertilization? Planting?*) Are you doing different post-harvest practices now (e.g. fermentation, solar drying) than before you joined the program?

EQ 4: What aspects of the GP Cocoa grant approaches have proven to be most relevant in meeting the needs of the Indonesian cocoa sector?

1. Were you part of a farmer group before you started the program? If yes, did you set up a new group or continue the existing group? Do you think participating in the group has any impact on your farming? If so, how?
 - a. If you are not part of a group, what has prevented you from joining? (*probe- not interested, don't see value, don't know of any groups*) If you are in a group, what activities do you do as a group?

2. Have you changed the amount of fertilizer you use because of the program (increased or decreased)? Why? Have you expanded your cocoa farm into forest land since you started participating in the program? Do you plan to in the future?

EQ 2: How has each grant progressed in achieving its short and medium-term outcomes, and what is the likelihood of achieving long-term outcomes? (reminder of short- inputs, practices, certification, marketing, stakeholder awareness- - and medium- productivity and access to markets, income)

1. Has the program helped with accessing inputs including fertilizer and improved seedlings/grafts?
2. Do you need financial services to purchase inputs? Has the program helped you to access financial services? Why or why not?
3. Has the program assisted you with marketing or selling your cocoa? In what ways? How did you market your cocoa before the program compared to now?
4. Have you noticed any changes in the price you get for your cocoa since the commencement of the program in 2015? What about the quality of the cocoa?
5. Overall has your cocoa crop income increased since joining the program? Why or why not?
6. What challenges do you still face in regard to marketing your cocoa crop?

EQ 3: What evidence is there that results or outcomes of the GP Cocoa grants will be further scaled and sustainable, and what results appear to be less sustainable? Why?

1. Do you think you will continue cocoa farming in the future? Why or why not?
2. In regard to your cocoa farming, do you think you will continue to practice what you have learned in the training after the program ends? (Probe- GAP? GEP?) What will help you do this? What may prevent you from doing this?
3. Do you believe that you will still be able to access the inputs (fertilizer & seedlings) you need? From where?
4. Are there specific challenges that women in cocoa farming face (prompt: transportation, workload, training inclusion, role in production and post-harvest)? Do you think the program has helped women to address some of these challenges? How would you rate the achievements of the program in terms of promoting women in leadership roles in farmer organizations, protecting ethnic minorities and vulnerable groups and identifying business opportunities that meet social and gender inclusion objectives? What do you see as the challenges and opportunities facing women, ethnic minorities and other vulnerable groups moving forward?
5. Once this project concludes, do you believe you will face additional challenges as a cocoa farmer? If so, what?

Grant specific questions

GP-SCPP specific question

Are you participating in a certification or traceability scheme?

If yes, which one? How does the scheme work? What is required to qualify for the scheme? Has it been difficult for you to qualify for participate in the scheme? What are the benefits?

What is the role of the farmer group/cooperative in managing the scheme? Is it working well? If not participating in a certification scheme, why not? Do you plan to participate in a certification scheme in the future? Why or why not?

CR specific questions

How has implementation of the SAN Certification incentive payments been going? Do you think the incentive payments compensate for the extra work required for SAN certification? How about the cocoa price received through the scheme?

How has the implementation of solar drying being going?

How has the implementation of climate smart agriculture being going? Do you find the content worthwhile to adopt? Have you been able to reduce tree cover loss or increase tree cover?

EQSI specific questions

How do you see the fermentation activity in general? What are the benefit (advantage) and disadvantages of doing fermentation? Under current conditions (price or incentives), would you keep fermenting your beans? Why?

What do you think about agroforestry training and tree nursery activities? Why would you adopt/not adopt agroforestry system in your cocoa farms? What are the costs and benefits associated with adopting agroforestry systems?

Mini-survey

Mini-survey (translated into Bahasa)

Pernyataan Kesediaan:

Terima kasih atas waktunya untuk bertemu kami hari ini. Nama saya _____. Saya adalah seorang peneliti dari sebuah organisasi bernama Social Impact, sebuah perusahaan yang berbasis di Amerika Serikat. Tim kami berada di Indonesia untuk melakukan study tentang projek GP-SCPP/EQSI/Cocoa Revolution yang didanai oleh MCC. Kami ingin melakukan mini-survey atau survey singkat hari ini untuk mempelajari pendapat Bapak/Ibu atas kemajuan projek tersebut. Informasi ini akan kami gunakan dalam laporan kepada MCC dan akan tersedia secara umum.

Penting untuk memahami bahwa walaupun kami membutuhkan bantuan Bapak/Ibu dalam studi ini, Bapak/Ibu boleh saja memilih untuk tidak mau atau tidak bersedia atau tidak mau menjawab sebagian atau sepenuhnya pertanyaan-pertanyaan yang kami ajukan jika Bapak/Ibu merasa tidak merasa nyaman. Jika Bapak/Ibu bersedia, kami memastikan bahwa jawaban Bapak/Ibu akan kami jaga kerahasiaannya. Ini berarti bahwa nama Bapak/Ibu tidak akan disebutkan dalam keseluruhan laporan ini dan tidak akan juga disampaikan kepada Swisscontact/RA/Kalla atau kepada sesiapaapun dalam komunitas Bapak/Ibu atau ke pihak-pihak lain. Semua informasi yang dikumpulkan hari ini akan disimpan dalam file komputer yang aman.

Tujuan dari penelitian ini adalah untuk meningkatkan pencapaian dari projek seperti GP-SCPP/EQSI/Cocoa Revolution. Hasil penelitian ini juga bisa dimanfaatkan oleh organisasi lainnya. Tidak ada keuntungan langsung buat MCC atas partisipasi Bapak/Ibu dalam studi ini. Tujuannya hanyalah untuk membantu kami meningkatkan kualitas layanan projek seperti ini.

Mini-survey ini diharapkan berlangsung selama 40 menit.

Jika Bapak/Ibu bersedia, silahkan mencentang kesediaannya, menuliskan nama serta menandatangani.

_____ Ya, Saya bersedia berpartisipasi dalam Mini-survey

_____ Tidak, Saya tidak bersedia berpartisipasi dalam Mini-survey

Nama: _____

Tanda tangan: _____

Tempat dan Tgl: _____

Pertanyaan Survey/Survey Questions:

1. Usia/Age: _____

2. Jenis Kelamin/Sex: _____

Tolong centang pilihan yang benar

3. Pendidikan/Highest education level:

(Silahkan centang salah satu)

Tidak menyelesaikan SD/Did not finish primary school []

Menyelesaikan SD/Finished primary school only []

Menyelesaikan SMP/Finished lower high school only []

Menyelesaikan SMA/Finished upper high school only []

Menyelesaikan Perguruan Tinggi/Achieved tertiary education []

4. Desa/Kabupaten/Provinsi/Village/District/Province: _____

5. Suku/Ethnicity: _____

6. Nama Kelompok Tani/ Name of farmer group: _____

7. Tahun berapa pertama kali taman kakao? What year did you first commence cocoa farming? _____

8. Berapa hektar kebun kakao milik Bapak/Ibu? How many hectares of cocoa do you own? _____

9. Ada berapa petak tanah? How many separate plots of cocoa do you own? _____

10. Biasanya kalau pergi ke kebun naik apa?/What form of transport do you use to get to your cocoa farm?

(Silahkan centang yang sesuai. Pilihan boleh lebih dari satu)

Jalan/Walk [] **Sepeda motor/motorbike** [] **Mobil/truk-car/truck** []

11. Selain kakao, tanaman apa lagi yang ada di kebun Bapak/Ibu? What other crops do you have?

1. _____
2. _____
3. _____

12. Apakah ada ternak bapak/ibu dan berapa banyak?/What livestock do you have and how many?

1. _____
2. _____
3. _____

13. Apakah anggota keluarga bapak/ibu penya gaji tetap? Pekerjaan apa? Does any member of your household have a wage earning job? Which job?

1. _____
2. _____
3. _____

14. Tahun berapa pertama kali ikut pelatihan Swisscontact? Which year did you first participate in training with GP-SCPP? _____

15. Silahkan centang kursus pelatihan Swisscontact yang Anda sudah pernah mengikut Please tick the modules of training that you have completed

GAP Basic []

GAP Advances []

GBP []

GFP []

GNP []

Pelatihan sertifikasi []

16. Sebelum Bapak/Ibu bergabung dalam program GP-SCPP, apakah Bapak/Ibu melakukan hal-hal seperti di bawah: Before you participated in the GP-SCPP/EQSI?CR training did you do

Tolong centang pilihan yang benar

	Melakukannya sebelum pelatihan/ Did Before training		Mekalukan setelah ikut pelatihan Swisscontact/Do after the training	
	Ya	Tidak	Ya	Tidak
a. Sanitasi kebun/ <i>Sanitation?</i>				
b. Pemangkasan/ <i>Pruning?</i>				
c. Menanam pohon penayang / <i>Plant shade trees?</i>				
d. peremajaan dengan sambung samping atau pucuk/ <i>Replace old stock with top or side grafts?</i>				
e. Meremajakan tanaman dengan bibit baru/ <i>Replace old stock with seedlings?</i>				
f. Menerima bibit baru dari Pemerintah/ <i>Receive clones from the government?</i>				
g. Membeli jenis klon kakao yg lebih baik/ <i>Buy improved clones?</i>				
h. Menggunakan pupuk kimia/ <i>Apply chemical fertilizer?</i>				
i. Membeli pupuk organik/ <i>Buy organic fertilizer?</i>				
j. Meminjam uang untuk membeli pupuk? <i>/Borrow money to purchase fertilizer?</i>				
k. Membuat kompos dan mengaplikasikan ke pohon kakao/ <i>Make your own compost and apply to your cocoa trees?</i>				
l. Membuat pestisida organik/ <i>Produce organic pesticides?</i>				
m. Mengaplikasikan pestisida kimia/ <i>Apply chemical pesticides?</i>				
n. Menggunakan obat untuk membersihkan rumput/ <i>Apply chemical herbicide?</i>				
o. Membuka lahan baru untuk kakao di hutan? <i>Open new land for cocoa in the forest?</i>				
p. Menanam tanaman selingan? <i>/Practice intercropping?</i>				
q. Selain menjemur biasa, menggunakan pengeringan tenaga surya yg memakai plastik UV? <i>/Do Solar drying?</i>				
	Melakukannya sebelum pelatihan/ Did Before training		Mekalukan setelah ikut pelatihan Swisscontact/Do after the training	
r. Melakukan fermentasi kakao? <i>/Ferment cocoa?</i>				
s. Memilah-milah bijia kakao yang kualitas bagus dan tidak sebelum menjual kakao? <i>/Sort cocoa before selling?</i>				
t. Menghitung pengeluaran dan pendapatan kebun kakao anda/ <i>Count costs and income for your business?</i>				
u. Menjual kakao anda ke tengkulak? <i>/Sell your cocoa to traders?</i>				

v. Menjual kakao anda ke perusahaan?/ <i>Sell your cocoa directly to processing companies?</i>				
w. Berpartisipasi dalam kegiatan kelompok?/ <i>Participate in group activities?</i>				

17. Days of drying

Berapa hari anda menjemur kakao anda? <i>Before joining the Swisscontact training how many days did you take to dry your cocoa before training?</i>	
Setelah ikut pelatihan Swisscontact berapa hari Anda menjemur kakao anda? <i>How many days do you take to dry your cocoa after training?</i>	

18. Farming income

Sejak bergabung di proyek ini, apakah menurut Bapak/Ibu pendapatannya menjadi: *Since joining this project, do you think your income from cocoa farming has:*

(Silahkan centang salah satu)

1) Bertambah/Increased []
2) Sama saja/Stayed the same []
3) Berkurang/Decreased []
4) Tidak tau/Don't know []

(if they give any explanation you can write it here)

Dalam skala 1 sampai 5, bagaimana menurut Bapak/Ibu kegunaan dari pelatihan-pelatihan yang bapak/ibu ikuti?/*On scale of 1 to 5 overall, how useful did you find the pelatihan Kakao Swisscontact?:*

(Silahkan centang salah satu)

1) Sangat berguna sekali/Extremely useful []
2) Sangat berguna/Very useful []
3) Berguna/Quite useful []
4) Sedikit berguna/A little bit useful []
5) Tidak berguna sama sekali/Not at all useful []

(if they give any explanation you can write it here)

--

19. Sustainability

	Ya	Tidak
Apakah Bapak/Ibu akan terus berkebun kakao di masa yang akan datang/ <i>Will you continue to farm cocoa in the future?</i>		
Apakah Bapak/Ibu berencana mengembangkan kebun coklat?/ <i>Do you plan to expand your cocoa business?</i>		
Apakah Bapak/Ibu bisa memperkirakan jumlah pendapatannya dalam tahun 2017 dari coklat/kakao? <i>Can you estimate your income in 2017 from cocoa?</i>		

Notes:

Direct Observation Tools

Direct Observation Instrument for Cocoa Farm

Village/Sub-District/District/Province: _____

Farmer Name: _____

Farmer Group: _____

Project: _____

Instructions: Meet with the farmer and asked her/his consent that you want to observe his/her cocoa farm. Let him/her know that you will be taking notes and photographs to document your observation.

Items Observed	Yes	No
Cocoa trees		
1. Are the cocoa trees mostly old? (<i>Old defines as more than 25 years old</i>)		
2. Does the farmer do side and top grafting?		
3. Is there any variety of clones of the cocoa trees?		
4. Does he/she know where to access better clones?		
5. Does he/she plant new/improved seedlings?		
Notes:		
Farm Sanitation		
6. Are the trees pruned?		
7. Are cocoa pods buried?		
8. Are there black/infested cocoa pods simply leave in farm/on trees?		
9. Are chemical fertilizers safely stored		
10. Is there a place for safely cleaning equipment contaminated with pesticides?		
11. Has the area around trees been cleared and sanitised?		
Notes:		
12. Does the farmer do frequent harvesting (panen sering)?		
Notes:		
Shading trees (tanaman penangung) and intercropping		
13. Is there any shading tree in the farm?		

14. Are the shading trees pruned?		
15. Do any of the shade trees provide income to the farmer?		
The use of inorganic and organic fertilizer		
16. Do the farmer use inorganic fertilizer?		
17. Is it applied regularly?		
18. Does he/she know recommended dose?		
19. Does the farmer use organic fertilizer		
20. Is it applied regularly?		
21. Does he/she produce the organic fertilizer?		
Notes:		
Addressing pest and disease		
22. Are there measures taken to address black pod/pod borer (PBK), VSD, stem borer?		
Post harvesting management and price		
23. Does he/she sort beans before selling?		
24. Does he/she do manual drying to reach standard minimum moisture content of 7%		
25. Does he/she use a solar dryer?		
26. Does he/she receive better price for better quality?		
Notes:		

Concluding Observations and Remarks:

Observer: _____

Date: _____

Direct Observation Instrument for Buying Station

Village/Sub-District/District/Province: _____

Buyer Name: _____

Company: _____

Project: _____

Instructions: Meet with the buyer and asked her/his consent to review his/her buying station. Let him/her know that you will be taking notes and photographs to document your observation.

Items Observed	Yes	No
Tools for grading and scaling cocoa beans		
1. Does the buyer have the right equipment for bean count/100 gram?		
2. Does the buyer do cutting test?		
3. Does the buyer do moisture content testing?		
4. Does the buyer do moldy testing?		
5. Does the buyer have trusted scaling?		
6. Is there any other means for bean grading apart from mentioned above?		
7. Does the buyer accept beans from certified farmers, farmer groups, suppliers?		
8. Does the buying unit recognize certified farmers, FG, and suppliers?		
9. Does the buyer accept beans from non-certified farmers, farmer groups, suppliers?		
10. Is the warehouse sufficient to maintain good quality for storage?		
11. Is the warehouse separate certified and non-certified beans?		
Notes:		
Prices and documentation		
12. A. Is there any price differentiation between certified and non-certified beans? (where applicable)		
B. Is there any price differentiation between fermented and non-fermented beans? (where applicable)		
13. Apart from quality related discount, any other discount?		

14. Apart from quality consideration, any other to increase price to farmer?		
15. Does the buyer accept and pay for low quality beans?		
16. Does the buyer provide receipts or any documentation for his/her purchase of beans from farmers?		
Notes:		
Services Provided by Buyer		
17. Does the buyer provide loan to farmer?		
18. Does the buyer provide solar dryers to farmer?		
19. Is there any services the buyer provides: pick-up bean/entrusted to temporary leave cocoa/sms daily price/ to farmer?		
Notes:		

Concluding Observations and Remarks:

Observer: _____

Date: _____

Annex 10. SNI Indonesian National Standard for Cocoa Beans

	Moisture Content	Rubbish	No Beans per 100 gms	Fungus
AA	6-7%	0%	<85	1-2%
A	7-8%	2%	85-100	-
B	7.5%	2.5%	101-110	4%
C	8-9%	3-4%	111-120	4+%
Rejected	>10%	>5%	120+	65+