

Baseline for Assessing the Impact of Fairtrade Certification on Cocoa Farmers and Cooperatives in Ghana

Divine Foundjem-Tita

Jason Donovan

Dietmar Stoian

Ann Degrande



RESEARCH
PROGRAM ON
Forests, Trees and
Agroforestry



RESEARCH
PROGRAM ON
Policies,
Institutions,
and Markets

Baseline for Assessing the Impact of Fairtrade Certification on Cocoa Farmers and Cooperatives in Ghana

Divine Foundjem-Tita

Jason Donovan

Dietmar Stoian

Ann Degrande



RESEARCH
PROGRAM ON
Forests, Trees and
Agroforestry



RESEARCH
PROGRAM ON
Policies,
Institutions,
and Markets

Correct citation:

Foundjem-Tita D, Donovan J, Stoian D, Degrande A. 2016. Baseline for Assessing the Impact of Fairtrade Certification on Cocoa Farmers and Cooperatives in Ghana. Nairobi. World Agroforestry Centre.

Published by the World Agroforestry Centre

United Nations Avenue

PO Box 30677 – 00100, Nairobi, Kenya

Tel: +254 20 7224000, via USA +1 650 8336645

Fax: +254 20 7224001, via USA +1 650 8336646

Email: worldagroforestry.cgiar.org

Website: www.worldagroforestry.org

© World Agroforestry Centre 2016

Articles appearing in this publication may be quoted or reproduced without charge, provided the source is acknowledged. No use of this publication may be made for resale or other commercial purposes.

All images remain the sole property of their source and may not be used for any purpose without written permission from the source.

The geographic designation employed and the presentation of material in this publication do not imply the expression of any opinion whatsoever on the part of the World Agroforestry Centre concerning the legal status of any country, territory, city or area or its authorities, or concerning the delimitation of its frontiers or boundaries.

AUTHORS

Divine Foundjem-Tita (d.foundjem@cgiar.org) is a marketing specialist based in the West and Central African Regional office of the World Agroforestry Centre. He holds a PhD in agricultural economics from Ghent University, Belgium. His research interests include: value chain analysis and development; rural enterprise development, institution and transaction costs economics, agroforestry policy analysis and also natural resources economics and management including, the economics of legislation and compliance with the law applied to the forestry sector.

Jason Donovan (j.donovan@cgiar.org) is research leader for value chains and transformational change at the World Agroforestry Centre, based in Lima, Peru. His work examines smallholder participation in agricultural value chains and the implications for development programming in support of livelihood resilience, food and nutrition security, and gender equity. Previously, he worked at the Tropical Agricultural Research and Higher Education Center (CATIE) in Costa Rica. Donovan holds a PhD from the University of London's School of Oriental and African Studies (SOAS).

Dietmar Stoian (d.stoian@cgiar.org) is principal scientist on value chains and private sector engagement at Bioversity International, based in Montpellier, France. His work focuses on the integration of smallholders in value chains through diverse institutional arrangements with private and public sector and civil society organizations, and a multi-chain approach aimed at livelihood resilience, food and nutrition security, and gender equity. Previously, he worked as leader of the Competitiveness and Value Chains Program at CATIE. Stoian holds a PhD in forest economics from the University of Freiburg, Germany.

Ann Degrande (a.degrande@cgiar.org) is a senior scientist in socio-economics at the World Agroforestry Centre, based at the West and Central Africa Regional Office in Yaoundé, Cameroon. Her research focuses on community enterprise development, rural advisory services, innovation and scaling of agroforestry. Ann has 20 years' experience on various aspects of tropical agroforestry systems and has been coordinating several research for development projects in West and Central Africa. She holds a PhD in applied biological sciences (tropical agriculture) from the University of Gent, Belgium.

ORGANIZATIONS

World Agroforestry Centre (ICRAF) is the world's leading center for agroforestry research and development. Our vision is an equitable world where all people have viable livelihoods supported by healthy and productive landscapes. We work with cross-sectoral and transdisciplinary approaches with greatest attention around four priority themes: 1) climate, environmental services and landscape governance; 2) land health restoration and investments; 3) trees for resilient livelihood systems; and 4) improved tree germplasm, diversity, products and value chains. The World Agroforestry Centre is a CGIAR Consortium Research Centre. ICRAF's headquarters are in Nairobi, Kenya, with six regional offices located in Cameroon, China, India, Indonesia, Kenya and Peru.

Bioversity International is a global research-for-development organization. We have a vision – that agricultural biodiversity nourishes people and sustains the planet. We deliver scientific evidence, management practices and policy options to use and safeguard agricultural and tree biodiversity to attain sustainable global food and nutrition security. We work with partners in low-income countries in different regions where agricultural and tree biodiversity can contribute to improved nutrition, resilience, productivity and climate change adaptation. Bioversity International is a CGIAR Research Centre. CGIAR is a global research partnership for a food-secure future.

ACKNOWLEDGMENTS

This study was carried out within the framework of the projects “Baseline Study on Fairtrade Certified Cocoa Producer Organizations in Côte d’Ivoire and Ghana” and “Expanded baseline for assessing impacts of Fairtrade cocoa in West Africa” funded by Fairtrade Africa and Fairtrade International. The project forms part of the CGIAR Research Programs on Forests, Trees and Agroforestry (FTA) and Policies, Markets and Institutions (PIM). We thank Transfair Germany and Fairtrade International for funding the project and the donors who support FTA and PIM through their contributions to the [CGIAR Funds](#).

We would like to thank Catharine Russell, with Fairtrade International, for her valuable assistance in the design and implementation of this project. Catherine supported the effort from start to finish, and her inputs contributed to a better baseline. Fairtrade Africa staff in Ghana, Samuel Adimado and Kwame Banson, provided valuable information and guidance during data collection. We would also like to thank Clement Odoi Kpobi, Roselyn Rockson, Andrews Agyei and Nyemb Bogla Lazare, who assisted in data collection and entry. The following persons reviewed the report in various draft stages and provided valuable feedback: Kate Kilpatrick and Caitlin Peeling at Fairtrade International; Samantha Dormer at Fairtrade Foundation; James Mwai, Edward Akapire and Tsitsi Choruma at Fairtrade Africa; and Martin Schüller at Transfair Germany. We appreciate the willingness of representatives of COCOBOD, cooperative unions and Licensed Buying Corporations who graciously gave up their time to participate in data collection. A special thanks to Ree Sheck for her valuable help in editing this report, as well as to the ICRAF communications team that prepared the report for final publication.

CONTENTS

AUTHORS.....	V
ORGANIZATIONS	V
ACKNOWLEDGMENTS	VI
LIST OF TABLES AND FIGURES	IX
GLOSSARY	XI
EXECUTIVE SUMMARY.....	XII
1. BACKGROUND	01
2. CONCEPTUAL FRAMEWORK AND METHODOLOGY	04
2.1 Conceptual framework	04
2.2 Methodology	05
2.2.1 Country selection	05
2.2.2 Context assessment	05
2.2.3 Primary data collection	06
2.2.4 Selection of cooperative unions and primary societies	06
2.2.5 Selection of households	07
2.2.6 Indicators at the cooperative and household levels	07
2.2.7 Enumerator selection and training	10
2.2.8 Data analysis	10
3. CONTEXT ANALYSIS	11
3.1 Expansion of Fairtrade cocoa in Ghana	11
3.2 Cocoa production	12
3.3 Political, legal and regulatory framework	12
4. COOPERATIVE UNION ASSESSMENT	16
4.1 Social Capital—Fairtrade cooperative unions	16
4.1.1 Relationships with members	16
4.1.2. Relationships with service providers	18
4.1.3 Volumes and quality of cocoa traded	20
4.1.4 Trading relationships	21
4.2 Human capital—Fairtrade cooperative unions	24
4.2.1 Governance, participation and decision-making processes	24
4.2.2 Capacity for business administration	25
4.2.3 Capacity building	27
4.3 Physical capital—Fairtrade cooperative unions.....	30
4.4 Financial capital—Fairtrade cooperative unions.....	32
5. HOUSEHOLD-LEVEL ASSESSMENT	36
5.1 Natural capital—farming households	37
5.1.1 Landholdings and land use	37
5.1.2 Cocoa trees and cocoa productivity	42
5.2 Physical capital—farming households	46

5.2.1 Use of farm tools	46
5.2.2 Use of inputs	47
5.2.3 Access to basic goods and infrastructure.....	48
5.3 Financial capital—farming households	51
5.3.1 Cocoa prices and income	51
5.3.2 Access to financial services	54
5.4 Human capital—farming households	57
5.4.1 Household size, age distribution and education level	57
5.4.2 Members' access to training	59
5.4.3 Number and type of members working on cocoa farms	61
5.4.4 Use of hired labour	63
5.4.5 Amount spent on hired labour.....	63
5.4.6 Safety and access to health services	64
5.5 Social capital—farming households	66
5.5.1 Knowledge of Fairtrade	66
5.5.2 Respondents' perception of trust	68
5.5.3 Respondents' perceptions of unions and primary societies	70
5.6 Shocks, resilience and vulnerability	73
6. TAKING STOCK	76
6.1 Summary of findings	76
6.2 Reflection on baseline design	77
6.3 Suggested next steps	78
7. REFERENCES	80
Appendix 1. Examples of Fairtrade development plans (Coop2 and Coop3)	82

LIST OF TABLES AND FIGURES

TABLES

1. Key informants interviewed	05
2. Overview of sampled cooperative unions	07
3. Baseline indicators at the cooperative level	08
4. Baseline indicators at the household level.....	09
5. Salient features of Fairtrade cocoa in West Africa (provisional data for 2012/2013) (Fairtrade International 2014)	12
6. LBCs in Ghana with actions in communities near selected cooperative unions	14
7. Membership in cooperative unions, from year of registration to 2014.....	17
8. Cooperative union collaborations with LBCs, government agencies and NGOs.....	19
9. Quantity and value of cocoa sold through conventional and Fairtrade channels	20
10. LBCs operating in same districts as sampled cooperative unions	22
11. Summary: Social Capital Endowment (Cooperative Unions).....	23
12. Participation of women and youth in general assembly and board of directors	24
13. Availability of policy/strategic documents	26
14. Training received by cooperative unions as of 2014	28
15. Supplementary training requested by leaders of cooperatives	28
16. Summary: human capital endowment (cooperative unions).....	29
17. Physical assets owned by cooperative unions as of 2014.....	30
18. Summary: physical capital endowment (cooperative unions).....	31
19. Distribution of Fairtrade Premiums by cooperative unions, 2012/2013 and 2013/2014.....	32
20. Sources of funding for cooperative unions other than Premiums	34
21. Summary: financial capital endowment (cooperative unions).....	35
22. Basic characteristics of members and non-members	36
23. Farm size (acres) for members and non-members.....	38
24. Comparison of farm size by gender for members and non-members	38
25. Number of plots by household (members and non-members)	38
26. Variation in plot size (acres) across cocoa cooperatives	39
27. Crops grown on members' plots, by gender	40
28. Form of plot acquisition for members, by cooperative and gender	41
29. Cooperative members' perceptions of soil fertility (by plot)	43
30. Cooperative members' assessment of average age of cocoa trees (by plot)	43
31. Reported variety of cocoa grown in cocoa plots (members and non-members)	44
32. Production and productivity in cocoa (2012/2013) for members and non-members	44
33. Summary: natural capital endowment (farming households)	46
34. Expenditures (USD) on inputs for cocoa production in 2012/2013 by members and non-members	48
35. Construction materials of main household dwelling in 2014 (members and non-members).....	49
36. Summary: Physical capital endowment (farming households)	51
37. Cocoa-derived income for members and non-members in 2012/2013 (USD).....	52
38. Members' ranking of income sources in addition to cocoa in 2013.....	54
39. Amount and cost of credit for members and non-members, 2012/2013 production year	56
40. Summary: financial capital endowments (farming households).....	57
41. Members' reported level of satisfaction with trainings received.....	61
42. Amount spent on hired labour (per day) for activities related to cocoa production (USD) in 2013.....	64
43. Summary: human capital endowment (farming households)	66

44. Self-reported knowledge of Fairtrade, by gender (members).....	67
45. Summary: social capital endowment (farming households).....	73
46. Summary: shocks, resiliences and vulnerability (farming households).....	75
47. Assessment of baseline indicators at cooperative union and household levels.....	78

FIGURES

1. Cocoa supply chains in Côte d'Ivoire and Ghana (Fairtrade Foundation 2011).....	13
2. Aspects of cooperative membership least appreciated by members	17
3. Aspects of cooperative membership most appreciated by members.....	18
4. Distribution of Fairtrade Premium by cooperative unions 2013/2014	33
5. Percentage of men and women respondents.....	37
6. Percentage of members and non-members with different levels of education	37
7. Percentage of members and non-members with different plot coverage.....	39
8. Percentage of plots with varying degrees of cocoa coverage, for members and non-members	40
9. Form of plot acquisition by members and non-members.....	41
10. Reported average age of cocoa trees for members and non-members	43
11. Percentage of members and non-members that own different types of equipment for cocoa production	46
12. Percentage of farming households using different types of inputs in cocoa production in 2012/2013	47
13. Frequency of using insecticides/pesticides and fertilizers for cocoa production in 2012/2013 (members and non-members).....	47
14. Percentage of cocoa-farming households owning goods and equipment by members and non-members in 2014	48
15. Sources of drinking water in 2014 for members and non-members, in percentages	50
16. Member and non-member satisfaction with cocoa prices	52
17. Main sources of income for cocoa-farming households, in percentages (members and non-members)	53
18. Respondents' sources of loans and saving destinations in 2012/2013 cocoa production season.....	55
19. Age composition of cocoa-farming households (members and non-members)	58
20. Education level of cocoa-farming households (members and non-members).....	58
21. Percentage of school-age household members enrolled in school in 2013 (by cooperative union)	58
22. Percentage of members having received different trainings before and after joining cooperative	59
23. Percentage of members and non-members having received different trainings	60
24. Level of participation of members in cocoa activities in percentages (by age group) in 2013.....	61
25. Percentage of members and non-members with different levels of engagement in land preparation in 2013.....	62
26. Percentage of members and non-members with different levels of participation in planting activities.....	62
27. Percentage of members and non-members with different levels of engagement in input application.....	63
28. Households using hired labour for cocoa-related activities in 2013.....	63
29. Percentage of protective equipment use in 2013 (members and non-members)	64
30. Percentage of households having health insurance in 2013 (members and non-members)	65
31. Percentage of households forgoing a trip to hospital in 2013 due to lack of money	65
32. Self-reported knowledge of Fairtrade (members and non-members)	67
33. Respondents' understanding of Fairtrade Premium, by gender	68
34. Percentage of members and non-members with different levels of trust as related to Fairtrade	69
35. Percentage of members with different levels of trust in cooperative unions and primary society	70
36. Aspects most appreciated by members regarding their cooperative union	71
37. Aspects least appreciated by members regarding their cooperative union.....	71
38. Aspects most appreciated by members regarding their primary society	72
39. Aspects least appreciated by members regarding their cooperative union.....	72
40. Farming households that reported having sold major asset to meet urgent need (members and non-members).....	74
41. Farming households that reported having to sell livestock to meet children's educational expenses	74
42. Percentage of members and non-members who reported different problems with cocoa production in 2013	74
43. Reported severity of problems in cocoa production in 2013 (members and non-members)	74

GLOSSARY

Cocoa Life: a project launched in 2012 by Mondelēz International and partners that provides assistance to cocoa-growing communities in selected countries of West Africa, Latin America and southern and southeastern Asia. The program is built on partnerships with governments, NGOs, supply chain partners, cocoa-farmer organizations and their communities. Activities include training farmers in cocoa production practices, providing access to financing for cocoa production and acting against child labour. The program has a reported budget of USD 400 million until 2022.

COCOBOD—Ghana Cocoa Board: the state agency that provides cocoa growers with support related to seed production, provision of inputs, pest and disease management, quality control, research and marketing. Government regulations stipulate that COCOBOD channel the sale of all cocoa exports from Ghana, including Fairtrade cocoa. COCOBOD also determines the price paid to farmers through its Producer Price Review Committee, made up of COCOBOD officials, a farmers' representative, government staff and agents of licensed buying companies.

Cooperative union: legally established organization in Ghana that represents the interests of primary societies (see below) by interacting with government agencies, local governments and buyers. On behalf of its primary society members, it provides technical assistance to growers, engages with standards systems and coordinates the disbursement of the Fairtrade Premium. It may also negotiate services to be provided by NGOs and government agencies. It may become engaged in buying cocoa from smallholders (as a licensed buying company, or LBC); however, to date only one cooperative union acts as an LBC (Kuapa Kokoo Farmers' Union).

Fairtrade: a third-party standards system that structures a trading partnership between international buyers and producers and workers in developing countries. Two critical elements of the Fairtrade Standards system are the Minimum Price and the Premium. The Minimum Price acts as a safety net for producers against downward price fluctuations. In the case of cocoa, the Minimum Price (FOB) is currently set at USD 2000 per tonne for conventional beans and USD 2300 for organic beans, though since 2007 the world market price has been above this threshold.

In addition to the floor price that kicks in when the world market price falls below this threshold, there is a Fairtrade Premium (currently at USD 200 per tonne) that farmers receive for cocoa sold under Fairtrade terms. Under Fairtrade regulations, cooperative unions decide how to use this Premium, for example to cover the costs of cooperative management, invest in community development and/or pay out to members as additional cocoa-derived income. In addition, local offices of Fairtrade may provide technical assistance to cooperatives to strengthen cooperative organizational capacities and support the delivery of services by cooperatives to their members.

Licensed Buying Company (LBC): a private cocoa-buyer company licensed by COCOBOD. As a minimum, LBCs are obliged to pay farmers the floor price established by COCOBOD's Producer Price Review Committee, but in view of the competition, an LBC may choose to pay higher prices. It may also offer incentives in the form of bonuses, input subsidies and/or credit facilities in order to attract and maintain relationships with farmers. In addition to the private LBCs, PBC Limited—a COCOBOD subsidiary formerly known as the Produce Buying Company Limited—remains the predominant company to which farmers sell their cocoa and the only LBC listed on Ghana's Stock Exchange.

Primary society: the first-tier organization under the umbrella of cooperative unions, whose legal members are individual farmers. The supreme decision-making body of the primary society is the assembly of members. The primary society is legally registered but does not collect and sell cocoa; it is located in one or several villages and brings members together for trainings and other activities. A primary society may facilitate the purchase of inputs for members and may submit funding applications to its cooperative union for social projects that benefit the community (e.g. school improvements, drilling boreholes).

Purchasing clerk: agent of an LBC located in given villages who purchases cocoa from local cocoa growers. The agent weighs the cocoa, records the volumes in LBC registers and farmers' passbooks, and pays for the cocoa in cash, with funds from its LBC. In some cases, the agent may also provide cocoa farmers with small loans (e.g. to purchase inputs).

EXECUTIVE SUMMARY

Some of the global chocolate industry's biggest players, such as Ferrero, Mars and Hershey, have expressed their commitment to achieve a sustainable cocoa sector by the year 2020. As the world's second-largest producer of cocoa, Ghana is also interested in moving towards sustainable cocoa production. Voluntary standards systems, such as Fairtrade, play an important role in providing independent third-party evidence of progress towards sustainability. Fairtrade does so by offering a framework for producers and buyers to engage in equitable business relations and opportunities for cooperative and community development through investments enabled by the Fairtrade Premium. Cocoa ranks third among the most important Fairtrade-certified products in terms of number of producers engaged (179 800 in 2014), after coffee and tea, accounting for 11 percent of all Fairtrade farmers and workers (Fairtrade International 2013).

Côte d'Ivoire and Ghana, the two biggest Fairtrade cocoa producers in West Africa, provide about 68 percent of the Fairtrade cocoa that is sold under Fairtrade terms in global markets. In 2013, the volume of Fairtrade cocoa from West Africa reached 133 400 t, involving some 71 cooperatives and producer associations and 138 800 farmers. Most Fairtrade cocoa from West Africa originates from Côte d'Ivoire (CDI) and Ghana, the latter being the subject of this report. Fairtrade cocoa in Ghana has expanded rapidly in recent years: between 2009 and 2014, sales increased from 481 to 54 600 tonnes, while the number of Fairtrade cooperative unions grew from only one in 2009 to 11 in 2014. The expanding Fairtrade cocoa sector in Ghana faces many of the same challenges as the West African cocoa sector as a whole, including low productivity and poverty in farming communities, limited infrastructure, a rapidly aging farming population, lack of electricity and portable water, and few examples of strong rural cooperatives or other forms of smallholder business organizations. In this context, important questions arise, such as, What are the capacities and the potential of cooperatives and resource-poor farmers to benefit from participation in Fairtrade certification? How can Fairtrade and partners help address the constraints and opportunities faced by cocoa growers, cooperatives and other players in the cocoa chain?

In 2014, Fairtrade International, Fairtrade Africa (FTA), the World Agroforestry Centre (ICRAF) and Bioversity International (Bioversity) began a collaboration to generate a multidimensional baseline on small-scale cocoa farmers

and their cooperative unions in Ghana and Côte d'Ivoire (CDI). The rapid growth in the number of cocoa-producing organizations joining the Fairtrade system in these two countries provides a unique opportunity to build a baseline for future monitoring and impact assessment, thus creating a framework for stakeholder engagement and improved intervention design. This report presents baseline research for Ghana (Fairtrade International 2016). It describes the conceptual framework and methods used in the design of the baseline, followed by an assessment of the context in Ghana for cocoa production and marketing, and then highlights the baseline data at the cooperative and household levels. We conclude with reflections on the current situation of the cooperatives and households and recommendations for future baseline work and next steps with local stakeholders in Ghana.

Conceptual framework and methods

At the heart of the baseline lies a multidimensional framework designed to capture the impact of Fairtrade on the livelihoods of cocoa-farming households as well as changes in the viability of the cooperative unions. The framework centres on endowments of productive assets, namely natural capital, human capital, social capital, financial capital and physical capital. Underpinning the baseline is the premise that a strong asset base translates into greater adaptive capacity and development potential. The research design covers two levels: the cooperative union level and the household level. Four cooperative unions located in the Ghanaian cocoa belt were selected: Coop1 (3450 members), Coop2 (1560 members), Coop3 (1652 members) and Coop4 (1964 members).¹ All of these cooperative unions were originally organized by external actors, either development projects or local buying companies (LBCs) and became officially registered between 2011 and 2012, only a few years prior to data collection. The purposeful selection of newly established cooperatives ensures a common starting point for tracking progress in business development over time. Each cooperative union was made up of various primary societies, or village-level administrative units. For the household sample, we selected 12 primary societies (three from each cooperative union), from which we selected households for the sample. A total of 322 cocoa-farming households were included at random

¹ The actual names of the cooperatives are not used in this report for reasons of confidentiality.

in the sample—approximately 29 percent of the households attached to the 12 primary societies. In addition, 80 non-certified cocoa-farming households from four of the selected communities where the primary societies were located were also included in the baseline (as part of the mix of information for understanding possible spillover effects and informing attribution claims for future impact assessment).

Context for production and marketing

Ghana stands out among the major cocoa-growing countries because of the strong role played by the state in cocoa production and marketing. Through the Ghana Cocoa Board (COCOBOD), the state provides seed production, disease control, quality control and marketing. In addition, COCOBOD carries out research on cocoa production and provides healthcare, education and other types of community-development services within the framework of its corporate social responsibility policy. The focus on quality has paid off—Ghana is recognized as a producer of quality cocoa, receiving a premium (about USD 100–150 t) above the world market price. Farm-gate prices in Ghana are fixed by a Producer Price Review Committee (PPRC) made up of COCOBOD officials, a farmers' representative, government representatives and representatives of the LBCs. Producer prices follow the world market price and include the premium that Ghanaian cocoa receives for its quality, as well as deductions for services provided by COCOBOD. Despite the government's goal to reach producer price levels of 70 percent of the export (FOB) price in the 2014/2015 production year, producers received a little more than half of it (53 percent) when selling to an LBC, as stipulated by state regulations. Ghana's cocoa yields have been up to 25 percent below those of the 10 largest cocoa-producing countries in the world.

Currently, establishment of Ghanaian sustainability standards for the whole industry is under consideration, and some private-sector actors support this view. The extent to which COCOBOD will proactively promote Fairtrade certification in the future remains unclear. The volumes of Fairtrade cocoa in Ghana currently amount to about 6.1 percent of national production, while only about half of the cocoa produced by Fairtrade-certified farmers is sold under Fairtrade terms—which is still higher than the shares of other countries (like Côte d'Ivoire, with about 20 percent). COCOBOD's primary goal is to ensure the sale of as much cocoa as possible at the highest price possible, thus underscoring the importance of the quality premium in the world market. Since the Fairtrade Premium goes directly to the cooperative unions and their members and makes up a relatively small percentage of overall cocoa income in Ghana, there is little incentive for COCOBOD to allocate the necessary resources to search out market outlets for Fairtrade-certified cocoa. To date, the promotion

of Fairtrade cocoa has relied mainly on LBCs having an international orientation, which facilitates market linkages with international Fairtrade cocoa buyers. The LBCs transfer certified cocoa to the COCOBOD for sale to certified international buyers, while the international cocoa buyers transfer the Fairtrade Premium (USD 200 per tonne) directly to the cooperative unions.

In recent years there has been renewed interest in the development of cooperatives in Ghana as a means to promote governance decentralization and business development in the rural areas (Salifu, Francesconi and Kolavalli 2010). Despite the rapid growth in cooperative numbers, however, there is little information on the capacity of cooperatives in Ghana to mobilize smallholders and contribute to increased economic activity in rural areas. Within Ghana's cocoa sector, the impressive growth of Fairtrade cocoa is linked to the evolution of the Kuapa Kokoo Farmers' Union and to the creation of numerous new cooperatives that obtained Fairtrade certification over recent years. Founded in 1993 and Fairtrade certified since 1995, Kuapa Kokoo has become the world's largest Fairtrade-certified cocoa cooperative. With about 100 000 members, organized into 57 independently registered societies across 1280 communities, Kuapa Kokoo offers technical services to its members, purchases cocoa as an LBC and provides credit (through an associated credit union with more than 8000 members). While Kuapa Kokoo continues to produce the lion's share of Ghana's cocoa sold under Fairtrade terms (77 percent in the 2012/2013 season), the newly founded cooperatives are increasingly contributing relevant volumes of Fairtrade-certified cocoa.

Asset endowments at the cooperative level

Social capital

- **Membership levels.** The cooperative unions have experienced uneven growth in membership. For two cooperative unions, membership levels more than doubled in the short time since their founding. For example, Coop1 increased from 1050 to 3450 members between 2011 and 2014. In another case, there was a small decrease: Coop3 membership decreased from 1574 to 1483 members. Access to Fairtrade Premiums and services, in particular technical assistance, are major drivers of this expansion.
- **Female representation in membership.** Women make up a relatively large percentage of the cooperative membership base, from 30 to 40 percent for the sampled cooperative unions. This suggests considerable interest by women in cooperative-provided services. However, as indicated below, the baseline reveals potential constraints to women's participation in cooperative union governance.

- Cooperative unions and LBC relationships. Cooperative unions report overall productive relations with their LBC business partners. The major challenge faced by the cooperatives in terms of buyer relations is the limited volume of certified cocoa that is effectively purchased under Fairtrade conditions—a prerequisite for commanding the Fairtrade Premium. The current share of slightly less than 50 percent of Fairtrade-certified cocoa effectively sold as such is clearly below expectations and needs.
- Access to services. The cooperative unions are highly dependent on a single provider of technical support (either an NGO-run project or an LBC), mainly for cooperative administration and provision of training services to members. This likely is insufficient for addressing the range of needs of the cooperative unions for their growth and development and leaves them highly vulnerable once a project terminates.

Human capital

- Governance structures. The cooperative unions are structured and operate according to Ghanaian laws, which provide a framework for member participation and administration (e.g. member-only board of directors, a general assembly and oversight committees, membership rights and obligations). However, since member leaders have limited training in business and management skills and limited information on cooperative operations, they have limited capacity to guide strategy and provide operational oversight.
- Female participation in governance. While females made up from 30 to 40 percent of the membership base, they constituted only 17 percent of the general assemblies (members selected from the primary societies to participate in the union governance) and 20 percent of the cooperative unions' boards of directors.
- Information sharing. Among cooperative leaders, limited information existed on business performance. Ad hoc meetings organized by cooperative unions remained the main mechanism for sharing information with members. Information shared largely revolved around training events and Fairtrade-related activities.
- Business and financial management capacity. None of the cooperative unions maintained up-to-date information on income or expenses. In one case, basic information on members had not been maintained. The future growth and development of the unions will depend on building better business and financial-management capacity.

Physical capital

- Infrastructure and tools. Overall need for physical capital was relatively low, as the cooperative unions were not directly engaged in the purchase, storage or processing of cocoa. Nonetheless, findings suggest that the current level of physical capital was below what it should be. The unions lack the basic infrastructure for maintaining a business (stable location, signage, reliable access to meeting facilities).

Financial capital

- Income sources. The Fairtrade Premium (the USD 200 paid directly to the cooperative for each tonne of certified Fairtrade cocoa sold by the LBC on its behalf) provided the majority of funding for the cooperatives since they themselves were not engaged in the buying and selling of cocoa. Becoming an LBC would open the door to additional income streams; however, this would require significant investments to increase current capacities, such as access to finance and business administration.
- Premium usage. The Fairtrade Premium had been used for various types of expenditures, including: (1) payment of bonuses to members, (2) purchase of inputs distributed to members at no cost, (3) operating expenses of the cooperative union and (4) community development projects. These amounts changed from one year to another and from one union to another. However, in general, the largest use of the Premium was directed towards members' needs (inputs and bonuses).

Assess endowments at the household level

Natural capital

- Productive land in cocoa. The average farm size was 4.3 ha, with most of it planted in cocoa, although in many cases, plots with cocoa also included food crops.
- Cocoa-production practices. Discussions with cooperative leaders and in focus groups suggest that members were making progress towards the adoption of good agricultural practices in cocoa. However, the household-level data suggests that considerable work remains. Traditional cocoa varieties are common despite their relatively high degree of susceptibility to cocoa-related diseases and pests. The findings here are in line with recent discussions on the state of the cocoa sector in Ghana.
- Cocoa yields. The average cocoa yield among members (540 kg ha⁻¹) was in the range of cocoa yields reported elsewhere in Ghana. There was a considerable variation in the sample regarding productivity.

Households with productivity estimates at or near the average were likely those that practised little or no pruning and had plots with irregular spacing, limited disease and pest control, and irregular harvesting and shade management.

Human capital

- Access to capacity building. Prior to joining the cooperative, a minority of households reported having received training on topics related to cocoa production (e.g. 29 percent received training on farm management). Having joined the cooperative, most households reported access to training on cocoa production (e.g. farm management, cocoa drying) and most reported access to other types of training (e.g. gender, child protection).
- Use of hired labour for cocoa production. Households used relatively limited hired labour on their cocoa farms. When used, it was mainly for land preparation and harvest. Of those households that had engaged hired labour, roughly 50 percent reported having done so for the 2012/2013 cocoa harvest.

Physical capital

- Equipment for cocoa production. The farming households had access to basic equipment for cocoa production (e.g. manual saws, axes and machetes). However, a relatively small percentage had access to motorized equipment that would save both time and money (savings in hired labour), such as motorized sprayers (17 percent) and motorized cutting equipment (two percent).
- Basic household infrastructure related to health, safety and well-being. Some 96 percent did not own a latrine, and 61 percent had no access to electricity. While not measured here, access to potable water and access to drivable roads are also likely to have been highly restricted.

Social capital

- Links to services provider. Extension and training were limited to services provided by the cooperative, while credit (in the few cases it was available) was limited to the LBC. Non-member households reported that one of the reasons for not joining the cooperatives was the limited capacity of cooperatives to meet promises and members' expectations.
- Perceptions about the meaning of Fairtrade. Only about six percent of cooperative members participating in Fairtrade had a reasonably good knowledge of Fairtrade. About 33 percent declared they had no idea, while 20 percent showed some knowledge. This

data reflects the newness of Fairtrade among sampled households, as well as the challenge for emerging cooperatives to build member engagement due to limited staff and infrastructure.

- Reported conflicts with buyers. Few respondents reported being paid less than the official price by LBCs. One issue was the perception of improper weighing of cocoa. Focus groups discussions with cooperative leaders revealed the belief that purchasing clerks altered scales to the benefit of the buyers.

Financial capital

- Cocoa-derived income. Cocoa provided the principal source of household income, with an average gross income from cocoa of USD 1459 per household in the 2012/2013 growing season. At this level, cocoa production alone cannot lift rural households out of poverty. Similarly, the average Fairtrade Premium paid directly to members as bonuses in the 2013/2014 season was USD 36—while a welcome additional income, was not a significant contribution to overall household income. However, if the cooperatives had been able to sell all of their Fairtrade-certified cocoa as such, the average Premium for 2013/2014 would have reached USD 74 per member (assuming that the same percentage of the Premium was paid directly to members).
- Access to credit for production. Only 10 percent of sampled households had access to credit of any kind. Most of those received credit in kind from LBCs (in the form of fertilizers and other inputs). Only 39 percent of the households that reported access to credit received it in cash, again from LBCs, where the average amount was low (USD 201).

Taking stock and looking ahead

- Analysis of the baseline provides reasons for optimism and caution regarding the outlook for the expansion of Fairtrade cocoa in Ghana. The baseline data suggests that the cooperative unions have taken the first steps towards building a viable business. They have forged commercial relationships with buyers, developed procedures for basic business operations and for ensuring compliance with government and Fairtrade Standards (e.g. environmental policy and child labour policy) and gained valuable experience in the basic operation of a cooperative enterprise. A major issue is the limited volume of Fairtrade-certified cocoa that is effectively sold as such and thus receives the Fairtrade Premium. The current share of slightly less than 50 percent of the certified volume purchased under Fairtrade terms is clearly below expectations. In addition, the cooperatives remain highly dependent

on a single service provider, either a development project or interventions by an LBC, which may leave cooperative unions with insufficient resources to build their own capacities and engage effectively with primary societies. The study also reveals potential bottlenecks related to information sharing, equitable governance

and infrastructure development. More interaction with cooperatives and their supporters is needed to understand how strategies for gender, environment and business development shape cooperative unions' operations in practice.

Unique context for cooperative development

Cooperative development in value chains for cocoa and other high-value crops has typically involved considerable external support delivered over many years. Previous experiences in Ghana and elsewhere have shown the risks and potential pitfalls of such approaches. However, the unique context in Ghana offers an alternative approach. The prominent role of LBCs as intermediary between COCOBOD and the cooperatives relieves the cooperatives of the need to engage in purchasing, processing and trading of cocoa. Most cooperatives can thus afford relatively simple internal structures, and external support can focus on building cooperative capacity to manage relationships with buyers, service providers and Fairtrade—all this at low costs for both members and external service providers. Irrespective of the cooperative model, a stronger coordination between COCOBOD, Fairtrade and other service providers is needed since cooperatives require a complementary service offer and would appreciate coordinated service delivery and pooled investments among external service providers.

At the household level, the baseline suggests that growers have benefited from Fairtrade certification through dividends from the Fairtrade Premium and through access to essential services (e.g. technical assistance and access to agricultural inputs). Considerable potential exists to increase the dividends paid to members by the cooperatives from the Fairtrade Premium (without sacrificing other uses of the Premium, such as providing members with inputs and technical support) if buyers were able to increase their purchase of certified cocoa. The households, in general, face an uphill march to intensify their cocoa production: most live in poverty, few have access to credit and when credit is available, it is too small to allow for strategic investments in cocoa production. In addition, aside from support provided by the cooperative, overall access to services is limited and capacity to purchase basic inputs for cocoa production (e.g. fertilizers) remains low. The baseline has indicated several areas for future research and intervention at the household level:

- role of women in cocoa production and their capacity to influence decisions in cocoa-related investments and receive benefits from cocoa-related activities;
- potential to strengthen rural livelihoods through targeted support for income-generating activities outside of cocoa, such as microenterprise development and production of high-value agrifood products for local markets;
- opportunities for greater engagement with local services providers to better understand the expressed demand for services by cocoa-farming households and the local supply of services, focusing on services offered, costs and possible benefits;
- input package needed for cocoa production that addresses the major problems experienced by a large percentage of households regarding productivity, pests and diseases.

Fairtrade as a catalyst for change

Fairtrade alone will not bring about the changes that significantly improve conditions for cocoa-farming households and cooperatives in Ghana, but it can make an important contribution. It has a stable presence in the region that few projects or NGOs have. Its interest in the welfare of farmers, as well as the cocoa business, provides Fairtrade with a unique standing among buyers, government agencies and NGOs. Active engagement by Fairtrade with those providing technical, business and financial services to ensure a coordinated and complementary service offer to cooperatives and farmers can make a real difference. Fairtrade should play a key role in helping cooperatives assess their performance and their capacity to support their members based on innovative approaches to monitoring, evaluation and learning. Such approaches would foster joint reflection among cooperative leaders, Fairtrade and other NGO staff, and local government representatives on cooperative development strategies and their outcomes.

Reflection on baseline design

Based on experiences in Ghana, we can offer the following recommendations for future baseline initiatives by Fairtrade:

- fewer indicators, but deeper coverage of each indicator, with context-specific guidance for operationalization;
 - expert consultation to identify more robust proxies for unobservable elements of cocoa production (e.g. soil fertility);
 - strategic approach to information collection based on (1) ongoing monitoring of critical and easy-to-measure indicators, (2) periodic assessment of critical but difficult-to-measure indicators and (3) in-depth studies on a case-by-case basis;
 - potential inaccuracies in data collection around a particular indicator are identified and understood before baseline data collection and, where possible, addressed in baseline data collection (e.g. farm size reported by farmers);
 - stakeholder engagement prior to baseline implementation related to baseline design and setting up a system for joint monitoring, evaluation and learning (M&EL), including definition of indicators, development of data collection plans, and agreements on how to address possible data inaccuracies.
- validate baseline findings with local stakeholders (cooperative leaders, LBCs, government agencies, NGOs), with a focus on the relative importance of indicators, potential information gaps for more critical indicators and recommendations for future baselines in cocoa;
 - design strategy for strengthening cocoa cooperatives and farmers that addresses some of the major issues identified in the baseline, with a focus on short-term goals that could be dealt with by different stakeholders with locally available resources, as well as longer-term goals that will require collaboration for design and funding of activities;
 - build alliance for implementing the strategy with other services providers;
 - design and implement innovative M&EL systems: (1) identify key performance indicators and develop strategy for operationalization, (2) plan for data collection, including partner engagement (cooperatives, farmers, others) and (3) agree on feedback loops and learning cycles for continued improvement.

Suggested next steps

The baseline provides a starting point for designing interventions that guide the expansion of Fairtrade cocoa

in Ghana. Dedicated follow-up with local stakeholders and external facilitators will allow them to fully capture the benefits of investments so far. We recommend the following activities next:



BACKGROUND

Standard systems and cocoa

Cocoa production is a critical element in the livelihood strategies of an estimated five million smallholders in the tropical regions of Southeast Asia, West Africa and Latin America. Cocoa production takes place in some of the most biologically diverse regions on the planet, including Brazil, Peru, Ghana, Côte d'Ivoire, Cameroon and Indonesia. While the initial planting of cocoa results in deforestation, in comparison with other land uses that replace intact forest, cocoa agroforests with diverse and structurally complex shade canopies are among the agricultural land uses most likely to conserve a significant portion of the original forest biodiversity. However, the industry faces a number of challenges that have limited its growth, attracted the ire of socially and environmentally conscious consumers and limited the potential benefits obtained by the poor farmers engaged in cocoa production. These include the use of child labour in cocoa production, destruction of large tracts of intact forest for cocoa production, pronounced boom and bust cycles that have devastating impacts on producers during extended downturns, chronic poverty conditions experienced by smallholder cocoa producers and labourers, and inability to increase cocoa productivity levels in major producing countries despite a growing demand for cocoa, especially in emerging markets. While global average yield of coffee has nearly doubled between 1970 and 2010 (from roughly 400 kg ha⁻¹ to roughly 800 kg ha⁻¹), the global average yield of cocoa has remained steady at 375 to 450 kg ha⁻¹.

Third-party voluntary standards systems can address some of the challenges faced by the global cocoa industry. Recent years have witnessed the rapid rise of various standards systems in global cocoa markets, the most common being UTZ Certified, Rainforest Alliance, organic and Fairtrade. Eco-friendly standards systems, such as organic certification, have advocated for conserving forests and avoiding the replacement of diverse agroforests by less diverse land-use systems. UTZ Certified and Rainforest Alliance systems place a strong emphasis on encouraging

farmers to adopt practices that are expected to increase productivity and improve working conditions for farmers and labourers. Fairtrade provides a framework for buyers and producers to engage in commercial relationships, leading to reduced risk for farmers and cooperatives, stronger cooperatives and producer associations, and potentially higher incomes for farmers, among other potential benefits. While all certified cocoa sales (including Fairtrade), estimated at 300 000 tonnes, or 33 percent of compliant production, make up a relatively small percentage of the total cocoa market (approximately seven percent), the certified segment of the market is growing at a fast rate (Potts et al 2014). Standards-compliant cocoa production (including Fairtrade) grew at 69 percent per year from 2008 to 2012. The five largest exporters of certified cocoa in 2011 and 2012 were Côte d'Ivoire (50 percent), Ghana (17 percent), Dominican Republic (15 percent), Peru (four percent) and Indonesia (four percent).

Despite the growing importance of certified cocoa, little is known about the impacts of voluntary standards systems on farmers, rural communities or the cooperatives and other types of enterprises that link farmers to international buyers and processors. A deeper understanding of the impacts of standards systems is important for the systems themselves in order to better support farmers and businesses through better standards and better services, as well as for the governments, private donors and NGOs that have directed resources to programs linking smallholders to certified products. Understanding the implications of certification on farmers and local businesses is a complex process, given the large number of factors that influence outcomes and the challenges of data collection from farmers and rural businesses. Where NGOs and government agencies have worked with farmers and cooperatives, they have often paid limited attention to understanding outcomes and impacts of their interventions. Historically, the lack of baseline data has presented a key challenge for standards systems and others to rigorously assess the impacts of certification and value chain development on producers and their cooperatives. Many of the assessments that have focused

on the standards systems (for example, Fairtrade and organic) have relied on recall methods to identify changes and establish the causal linkages. The collection of baseline data is essential to ensure that the process of comparing the current and subsequent data collected is robust.

Fairtrade cocoa in West Africa

Fairtrade represents one of the longest-standing market-based approaches to promote rural development outcomes with smallholders in developing countries. It provides a framework for buyers and producers to engage in commercial relationships, potentially resulting in reduced risk for farmers, stronger cooperatives and higher incomes for farmers, among other benefits. Fairtrade can lead to development outcomes through three main pathways. First, it guarantees a floor price (designed to ensure that producers can cover their average production costs): when world market prices are below the floor price, buyers agree to pay the floor price; when world market prices are above the floor price, buyers pay the market price. The second is the Fairtrade Premium—an amount (set by Fairtrade) in addition to the contract price that is paid by buyers to cooperatives to support investments in cooperative development, boost farm-gate prices paid to members, build capacity or fund community projects. Decisions on the use of the Premium are made through the cooperatives. The third element relates to the unique set of services and support available to cooperatives and farmers because of their engagement with Fairtrade, such as support services provided by Fairtrade business-support officers and business-development advisers, technical assistance from NGOs and buyers that engage with the Fairtrade system to advance social goals, and specialized lending organizations that support Fairtrade-certified cooperatives (e.g. Root Capital).

After coffee and tea, cocoa is the most important Fairtrade-certified product in terms of number of producers engaged (179 000 in 2014) (Fairtrade 2015). West Africa provides roughly 75 percent of the Fairtrade cocoa that is sold in global markets, followed by Latin America with the remaining 25 percent. In 2013, the volume of Fairtrade cocoa from West Africa reached 133 400 tonnes, involving some 71 cooperatives and producer associations and 138 800 farmers (Fairtrade International and Fairtrade Africa 2013). Most of this cocoa is from Côte d'Ivoire and Ghana. The Fairtrade cocoa sector in Ghana has expanded rapidly in recent years² and likely faces many of the same challenges as the West African cocoa sector

as a whole. These include low productivity, poverty in farming communities, limited infrastructure, aging farming populations and limited access to basic services. In addition, there are few examples of strong cocoa cooperatives in the region—cooperatives that could play a strong role in supporting cocoa production and negotiating better terms with buyers, government agencies and NGOs. In this context, important questions arise, such as: Under what conditions does participation in Fairtrade certification in cocoa lead to significant changes for small businesses and poor farmers? How can Fairtrade and partners best help address the bottlenecks faced by the different players?

Building a baseline in West Africa

In 2013, Fairtrade International, Fairtrade Africa (FTA), the World Agroforestry Centre (ICRAF) and Bioversity International (Bioversity) initiated discussions regarding the generation of a multidimensional baseline on small-scale cocoa farmers and their cooperatives in West Africa. The rapid growth in the number of cocoa-producing organizations joining the Fairtrade system in Ghana and Côte d'Ivoire provides a unique opportunity to build a baseline on Fairtrade cocoa producers in West Africa for future monitoring and impact assessment. ICRAF and Bioversity share a long-term commitment to support smallholder cocoa farmers and their cooperatives and have collaborated extensively to help development agencies and value chain actors understand the outcomes and impacts of value chain development on rural poverty. Fairtrade International and FTA contracted ICRAF and Bioversity for the creation of the database in Ghana and Côte d'Ivoire, with commitments that included the incorporation of eight cooperatives, including five cooperatives that engage in commercial relationships with cocoa buyers through the Fairtrade Sourcing Programs (FSP)³ and some 900 households in Ghana and Côte d'Ivoire.

This report describes the design of the multidimensional baseline and how it was carried out in Ghana, presents results from the context assessment and the cooperative assessment, and provides summary information at the household level. Section 2 provides details on the methodology used for building the three dimensions of the baseline (context, cooperative and household analyses). Section 3 discusses the context in which cocoa is produced and marketed in Ghana and the implications for Fairtrade cooperatives and producers. Section 4 discusses the data on Fairtrade cooperatives, while section 5 presents

2 According to data from Fairtrade International, from 2009 to 2014, sales of Fairtrade cocoa from Ghana increased exponentially, from 481 to 54 600 tonnes. The number of Fairtrade cooperatives in Ghana also increased during the period, from only one cooperative union in 2009 to 11 cooperative unions in 2014.

3 Fairtrade Sourcing Programs for cocoa, sugar or cotton connect Fairtrade farmers with companies wanting to buy these specific commodities on Fairtrade terms. Rather than focusing on all the ingredients for one final product, Fairtrade Sourcing Programs allow companies to make commitments to source one or more specific commodities for use across one or more product lines.

summary information on the sampled cocoa farmers. At the end of each section, a summary is included to help the reader identify the main points of the analysis and provide suggestions for future work on monitoring and

assessment. The report concludes with a reflection on the findings, suggestions for future work on baselines for impact assessment, and recommendations for next steps with stakeholders in Ghana.

2

CONCEPTUAL FRAMEWORK AND METHODOLOGY

This section describes the conceptual framework that underpins the design of the baseline and provides a detailed discussion of sample design at the cooperative and household levels as well as the data collection tools and techniques applied.

2.1 Conceptual framework

Drawing on the sustainable livelihoods framework and debates on asset-based approaches to poverty reduction (Moser 2006), the baseline focuses on measuring assets at the level of smallholder households and cooperative unions, namely human, social, natural, physical and financial capitals. When focused on farming households, the approach recognizes that smallholders maintain diversified livelihood strategies based on a combination of on-farm and off-farm activities, with farming—whether on one's own land or someone else's—being one among several livelihood pursuits. The struggle to make a living often involves temporary or more permanent forms of migration, where remittances may be critical to productive investments and household consumption. Smallholders try to optimize a diversified livelihood system rather than any particular element of the system, such as engagement in a specific value chain. Against this backdrop, a focus on assets (human, social, natural, physical and financial capitals) offers a broader understanding of smallholder livelihood circumstances and needs. Individuals, households, communities or entire societies, depending on the type of asset and related ownership, can own the assets. An asset-based approach sheds light on the access to and quality of the assets as well as the dynamics of asset building or erosion. It is possession of such assets and their wise use that permit farming households to respond to shocks, adverse trends and seasonality and to take advantage of new market opportunities and institutional constellations.

Assets can be seen as stocks or flows. Financial capital, for example, constitutes a stock when held as savings and a flow when converted into livestock (natural capital) or

machinery (physical capital). Flows across different types of assets are particularly important as they can lead to positive feedback loops (the building of one asset leads to the building of another) or asset erosion (the loss of one asset induces the loss of others). An example of a positive feedback loop would be building human capital through training smallholders in integrated pest management that helps reduce costs and allows reinvesting the resulting financial capital in processing equipment (physical capital), which in turn helps generate higher value added, and so on. A negative feedback loop could be caused by a natural disaster (loss of natural capital) that erodes income (financial capital) and, consequently, the health and nutritional status of the household (human capital). Feedback loops exist at the household level and also between households and small-scale enterprises. For example, the acquisition of a dry mill by a coffee cooperative (physical capital) helps improve coffee quality, thus enabling the associated coffee producers to obtain higher prices (financial capital). An asset-based approach allows deeper understanding of the changes in the stocks and flows of assets and thus provides a more complete picture of livelihood resilience and business viability than measurements of employment and income. Asset endowments at the household level are indicators of the household's ability to limit the impact of external shocks and respond to threats or opportunities related to changes in the political and market environment. When looking at small-scale enterprises, asset stocks and flows are indicative of its positioning in the market, performance and long-term viability.

An asset-based approach is a key feature of the 5Capitals tool for assessing the impact of value chain development, which has been applied in various countries and across various value chains (Garming et al 2011; Katerberg, Khan and Ruddick 2011; Donovan and Poole 2014; Sheck, Donovan and Stoian 2013) as well as Fairtrade's theory of change, which lays out how interventions contribute to changes at the farmer and farmer-producer organization (FPO) levels and provides a suggested set of indicators for

measuring the results of Fairtrade and progress towards Fairtrade's goals. Both frameworks consider interventions in the broader sense (beyond the actions of a single organization), to include setting standards and interventions to help strengthen farmers and local enterprises engaged in Fairtrade. In addition, both frameworks are interested in outcomes at the level of local enterprise and the producing household. The Fairtrade theory of change adds some additional dimensions that are especially important in the context of Fairtrade interventions and related outputs. These include: a strong focus on the community-level implications of the Fairtrade system (e.g. improved services and infrastructure in communities and support for vulnerable and marginalized groups in communities—a potential outcome of the use of the Fairtrade Premium) and a strong focus on human rights, especially the rights of children. The Fairtrade theory of change identifies various indicators for measuring the impact of the Fairtrade system. The specific indicators that were applied in the design of the baseline (derived from both 5Capitals and the Fairtrade theory of change) are described in section 2.2.6.

2.2 Methodology

2.2.1 Country selection

Ghana was selected for inclusion in the baseline because of its significant share in the world cocoa market and because of its clear potential to become a major player in the global Fairtrade cocoa markets. Ghana is among the four West

African countries that produce more than 70 percent of the world's cocoa, the others being Côte d'Ivoire, Nigeria and Cameroon. In 2011, of the 124 000 tonnes of cocoa produced as Fairtrade cocoa, Ghana produced 31 percent, behind Côte d'Ivoire, which produced 39 percent. Only recently did Côte d'Ivoire surpass Ghana as the top supplier of Fairtrade cocoa.

2.2.2 Context assessment

Internet searches and key informant interviews (table 1) were conducted to gather contextual information on the cocoa sector in Ghana. The literature consulted included scientific publications, project and company reports and websites of important cocoa actors in the country, especially the Ghana Cocoa Board. Analysis focused on these aspects:

- policies and regulations governing the cocoa sector (e.g. purchasing, pricing, extension, quality);
- policies and regulations governing cooperative unions, organizational structures of the cooperative unions and relationships between the government and cooperative unions;
- market trends for Fairtrade-certified cocoa and benefit-capturing by Fairtrade-certified cocoa producers in Ghana;
- government and NGO engagement with certification schemes, with particular attention to Fairtrade.

TABLE 1. KEY INFORMANTS INTERVIEWED

Category of organization	Persons and/or organization in Ghana
Marketing board	Director of research at COCOBOD
National agricultural and extension services	National Registrar of Cooperatives, regional and district directors of cooperatives in the Ashanti region and Goaso district
Fairtrade certification	Fairtrade officer in Ghana (Fairtrade International consultants)
NGOs engaged in cocoa sector	Program manager of CARE in charge of Cocoa Life project
Private sector, buyers, processors	Managing director of UNICOM, partner to Armajaro, coordinator of cocoa program in Mondelēz International

2.2.3 Primary data collection

Primary data was collected from cooperative unions and their members and from non-members that resided in the same communities as selected members. The tools employed for data collection from households included an interview guide for focus group discussion with cooperative leaders (cooperatives unions and primary societies); an interview guide for focus group discussion at the community level; a questionnaire for cooperatives members; and a questionnaire for non-members of cooperatives. The interviews were administered in local languages in Ghana; an average of one hour was required to administer a questionnaire.

- Cooperative unions. Focus group discussions were organized with leaders of cooperative unions, the primary societies attached to these cooperative unions and representative from the communities where the primary societies were based. Present during discussions with cooperative unions were the president, secretary, treasurer and manager. Where possible, efforts were made to include female leaders in the discussions. In addition, the cooperative managers were invited to the focus group discussions; however, their participation was not considered essential. Secondary information was collected where possible. NGOs that provided services to the cooperative unions and primary societies were consulted to triangulate and deepen information gathered during the focus groups. Focus group discussions were also carried out in the communities where selected primary societies were based, with at least 10 community members participating in each discussion.
- Members (cocoa-farming households belonging to one of the sampled cooperative unions). Household questionnaires were tested in two communities and a first revision was made on the basis of the feedback from participants and researchers. The instruments were later refined during the training of enumerators and were tested again in another community, together with the research assistants as part of their training. The second version of the questionnaires was later modified to suit the context and objectives of the study.
- Non-members (reference group). Non-member households were located in the same communities as sampled members, but they did not participate in the sampled Fairtrade cooperatives or in any other cocoa cooperative. Key informants in selected communities facilitated the identification of non-member cocoa-farming households with characteristics similar to

those of sampled cooperative member households.

The reference group serves two purposes: (1) provides insights on possible spillover effects from Fairtrade cocoa on cocoa-growing communities and (2) facilitates the detection of major differences, either positive or negative, in the indicators between the members of the Fairtrade cocoa-farming households and other farming households.

2.2.4 Selection of cooperative unions and primary societies

Four cooperative unions were selected for the baseline survey out of a total of nine newly certified Fairtrade cooperative unions in the country. The four selected unions are Coop1 (3450 members), Coop2 (1560 members), Coop3 (1652 members) and Coop4 (1964 members). Table 2 presents basic information on the selected cooperative unions. Our selection of these four cooperative unions was guided by the following criteria:

- Union should be located in Ghana's cocoa belt, reflecting typical agroecological conditions for cocoa.
- Union should not have more than two years of experience with Fairtrade certification.
- There should be reasonable distance between unions to reduce transportation costs faced in data collection for baseline and subsequent monitoring and impact assessment.

From each selected cooperative union, three primary societies were selected. Thus, our sample included 12 primary societies out of a total of 158 primary societies that were affiliated with selected cooperative unions. The selection of primary societies was made in consultation with union leaders and farmers, with an aim to maximize variation among the societies in terms of size (number of members and volume of production) and distance from the district headquarters and main road.

TABLE 2. OVERVIEW OF SAMPLED COOPERATIVE UNIONS

Selected cooperative union (CU)	Total membership in 2014	Total membership in selected primary societies	Cocoa production (tonnes) from primary society (Oct. 2013–Jan. 2014)	Households sampled from each primary society
Coop1 (41 primary societies)	3450 (1983 males, 1467 females)	380	987	100
		40	63	12
		181	276	40
Coop2 (36 primary societies)	1560 (1063 males, 497 females)	61	36	18
		34	26	10
		64	121	19
Coop3 (29 primary societies)	1652 (1027 males, 625 females)	82	N/A	25
		26	N/A	8
		35	N/A	10
Coop4 (52 primary societies)	1964*	62	N/A	42
		30	N/A	28
		19	N/A	10
Total	8626	1014		322

* Information on male/female membership not available

2.2.5 Selection of households

Data collection at the household level considered two types of households:

- Cooperative union members—households linked to a primary society of a certified cooperative union and thus beneficiaries of Fairtrade certification.
- Non-members—households located in the same community as cooperative members but not linked to a Fairtrade-certified cooperative union or any other cooperative.

Given an estimated population of 8626 households, and with a 90 percent confidence interval, the calculated sample size was 263, which we increased by 63 households to allow for some error in the estimates. The 322 sampled member households were selected from the four cooperative unions, which is about 29 percent of the population of the selected primary societies and four percent of the entire cooperative membership (see table 2 for details). The sampled households were selected at random from an established list of the 1014 members who make up the 12 selected primary societies. The decision to sample a large percentage of households from a given primary society was made to reduce data collection expenses. Care was taken in the identification of the selected primary societies (see previous discussion), thus reducing any potential bias for the concentration of households in the societies selected.

Data from non-member households was collected from four communities, which were selected in consultation with cooperative union leaders. Efforts were made to select communities that provided maximum variation in terms of access to markets and overall level of economic development. In each of the communities; 20 non-member households (that produced cocoa but were not engaged with any cooperative union) were selected using the snowball method.⁴ Participation was based entirely on the willingness of the representatives of the selected households. In all, 80 non-member households took part in the survey.

2.2.6 Indicators at the cooperative and household levels

Based on an extensive consultative process between the Fairtrade representatives and the ICRAF and Bioversity implementation team, a multidimensional and multilevel indicator set was identified for the baseline. Table 3 presents the indicators used at the cooperative union level and table 4, at the household level. In both cases, indicators are grouped according to type of asset and relevance to the Fairtrade theory of change.

⁴ The snowball method is a non-probability approach to sampling. The technique involves asking already selected participants in the study to select people they know to be other potential participants in the study.

TABLE 3. BASELINE INDICATORS AT THE COOPERATIVE LEVEL

Area of impact	Theory of change and/or livelihood theme	Indicators
1. Social capital	Organizational strengthening of small-scale producer organizations (SPOs) SPOs/strong, resilient SPOs	<ul style="list-style-type: none"> • Growth of Fairtrade membership within the community • Number of registered farmers and primary societies disaggregated by gender, age • Assessment of relationships by cooperative union (CU) members • Percentage of CUs that carry out consultations with (1) adults, (2) youth in local communities, when (1) deciding on Fairtrade Premium use, (2) planning Fairtrade Premium projects • Other services provided to members (inputs, credit saving schemes (what, to whom, cost coverage) • Trainings provided to members, by age and gender • Nature and strength of relations with external service providers (NGOs, government agencies, others) • Community decision-making process, participation of members, by gender and age (via primary societies)
	Access to fair-trading conditions	<ul style="list-style-type: none"> • Volume and value of cocoa sold by CU (1) under Fairtrade conditions (FMP and Premium) to Fairtrade certified buyers, (2) under Fairtrade conditions to non-Fairtrade-certified buyers, (3) as non-Fairtrade, in previous calendar year • Percentage of total Fairtrade-certified production rejected by CU for defects or poor quality, in previous calendar year • Average (1) gross revenue (2) net revenue for CU members from sale of Fairtrade-certified cocoa in previous calendar year, by gender • Nature of relationships with licensed buying companies (LBCs), such as contracts, services offered, satisfaction • Satisfaction with the trading relationships with LBCs and Fairtrade importers (information exchanged, support provided, price) • Management perceptions of benefits associated with participation in Fairtrade
2. Human capital	Enhanced knowledge and capacity among small-scale producers and their organizations	<ul style="list-style-type: none"> • Member participation in decision making and policy formation • Percentage of female (1) board members, (2) committee members, (3) general assembly participants • Mechanisms for sharing information with primary societies and members (what, how) • Updated strategic and/or business plan that guides decision making • Mechanisms for planning and assessing effectiveness of organization (what, how, who) • Child labour policy approved by general assemblies and communicated to members • Training services provided to members, by funding source • Number of members receiving support services • Training on environmental management, child labour, chemical use.
3. Physical capital	Increased investment in small – scale producers, their communities and producer organizations	<ul style="list-style-type: none"> • Infrastructure owned or rented, such as buildings and warehouses • Infrastructure for cocoa production and marketing • Equipment owned for business administration and provision of member services • State of physical infrastructure and services within the community (roads, equipment, transport, health)

Area of impact	Theory of change and/or livelihood theme	Indicators
4. Financial capital	Increased investment in small-scale producers, their communities and producer organizations	<ul style="list-style-type: none"> Investments in community health, education and other services, disaggregated by funding source (including Fairtrade Premium) Investments in community infrastructure for cocoa production, disaggregated by funding source (including Fairtrade Premium) Cash disbursements to members (Fairtrade Premium) Services provided by cooperative to members, loans, inputs, technical guidance
	Resilient and viable producer organizations	<ul style="list-style-type: none"> Activities carried out in the chain (e.g. production/extraction only, postharvest processing, transformation, trade/retailing) Access to credit from banks and other sources Income from member and primary society dues, Fairtrade Premium and sale of services to members (e.g. fertilizers, transportation) Policies in place for health and safety of members (e.g. child labour/community-level use of hazardous substances)

TABLE 4. BASELINE INDICATORS AT THE HOUSEHOLD LEVEL

Area of impact	Theme in the theory of change and/or livelihood theme	Indicators
1. Natural capital	Farm practices Access to land Production practices	<ul style="list-style-type: none"> Land ownership and tenure arrangements, disaggregated by gender Area under production and dedicated to cocoa Average cocoa plantation age Cocoa production volume Production practices for cocoa (pruning, on-time fertilization, replanting, shade management, sanitary harvest) Fertilizer and agrochemical application for cocoa (amount, type, factors facilitating purchase)
	Machinery and equipment for on-farm production	<ul style="list-style-type: none"> Tools and equipment for cocoa and other on-farm activities Perception of access to inputs: (1) sufficient for needs, (2) limited by supply restrictions, (3) limited by insufficient income Shared tools and equipment (primary society, cooperative union, community levels)
2. Physical capital	Housing and production-related equipment	<ul style="list-style-type: none"> Access to potable water, electricity, communications Housing infrastructure Transportation costs for delivery of cocoa
	Income sources	<ul style="list-style-type: none"> Gross income from cocoa sales Fairtrade prices, satisfaction with prices Income from other sources Investments in housing, on-farm production, education, other key items/services
3. Financial capital	Financial services	<ul style="list-style-type: none"> Loans (sources, use, interest rates)
4. Human capital	Access to education	<ul style="list-style-type: none"> Children of CU members attending school, by gender and grade
	Productive capacity	<ul style="list-style-type: none"> Contribution of household members to cocoa production Contribution of seasonal/year-round hired labour to cocoa production
	Access to health services and worker safety	<ul style="list-style-type: none"> Use of protective equipment for on-farm production (chemicals), by gender Availability of health services in community Perception of quality of health services

Area of impact	Theme in the theory of change and/or livelihood theme	Indicators
5. Social capital	Equality, cooperation and unity	<ul style="list-style-type: none"> • Knowledge of Fairtrade, including understanding of how payments from the CU are calculated, by gender • Access to (satisfaction with) support services (from primary society, others) received for cocoa production, by gender • Trust and satisfaction levels with primary society, CU, LBCs, by gender • Understanding of decision making around Premium use by primary society, by gender
6. Resilience	Ability to withstand production and other shocks	<ul style="list-style-type: none"> • Sales of assets, or mobilizing support • Capacity to respond to cocoa pests and diseases

2.2.7 Enumerator selection and training

Three experienced enumerators were hired for data collection at the household level. The implementation team trained the enumerators for one week prior to data collection. ICRAF staff accompanied the enumerators in the field for one week to provide support and remained in close contact with them throughout the data collection period. The enumerators spent five weeks in the field. At the beginning of each interview, the enumerators explained

the objectives of the research to the respondents and requested consent from the interviewee before data collection.

2.2.8 Data analysis

Household level data was entered in MS Access version 2010. Quantitative data was extracted from Access and exported to SPSS version 20 for descriptive statistics.

CONTEXT ANALYSIS

3.1 Expansion of Fairtrade cocoa in Ghana

World cocoa production has increased by 21 percent, from 3.6 million tonnes in the 2008/2009 cocoa season to 4.4 million tonnes in 2013/2014. Over the same period, Ghanaian cocoa production increased by about 26 percent, from 710 000 tonnes to an estimated 897 000 tonnes (ICCO 2016). After Côte d'Ivoire, Ghana is the second-largest cocoa producer in the world, with its share of world production oscillating between 17 percent (2011/2012) and 25 percent (2009/2010). Initiating with Kuapa Kokoo Farmers' Union, which obtained its Fairtrade certificate in 1995, the Ghanaian volume of Fairtrade cocoa has steadily grown, reaching 54 600 tonnes in 2013/2014 (Fairtrade International 2015), equivalent to 6.1 percent of national production.

Over the 2008/2009–2014/2015 cocoa seasons, world market prices oscillated between USD 2400 and USD 3200 per tonne, with a low of USD 2068 per tonne in November 2008 and a high of USD 3525 in January 2010 (ICCO 2016). Ghana receives a market premium of about USD 100–150 per tonne in addition to the world cocoa price due to the high quality of its cocoa beans. The prices paid to COCOBOD have been consistently above the Fairtrade Minimum Price (FMP) of USD 2000 per tonne over recent years. As a result, the Fairtrade incentive received by the cooperatives and their members is limited to the Fairtrade Premium of USD 200 per tonne. However, in the 2013/2014 cocoa season, only 49 percent of the Fairtrade-certified cocoa produced in Ghana was actually sold on Fairtrade terms (table 5). Still, in that season, cocoa farmers in Ghana received more than USD 5.3 million in Fairtrade Premiums.

According to KPMG, in 2010, farmers' organizations in Ghana spent 14 percent of the Fairtrade Premium on projects to increase farm productivity and cocoa quality; 75 percent on other collective projects, including community projects and direct farmer benefits; and the remaining nine percent on support to cooperative union administration and member development (KPMG 2012). In the 2013/2014 season, Fairtrade-certified cocoa cooperatives and their members in Ghana generated a value of about USD 168 million, equivalent to 6.2 percent of total cocoa export value. However, despite the positive trend in production and sales of conventional and Fairtrade cocoa, the overall situation of non-certified and Fairtrade cocoa producers has become less favourable over the past few years in view of (1) declining real income obtained from cocoa due to inflation and the depreciation of the Ghanaian cedi against the US dollar (the national currency lost more than 50 percent of its value over the past two years); (2) mounting prices of imported and locally produced farm inputs used on cocoa farms; and (3) higher deductions of the FOB export price by COCOBOD. Though producer prices increased from GHS 200 per bag of 62.5 kg in 2010/2011 to GHS 345 per bag in 2014/2015, the dollar value of cocoa decreased from USD 143 to USD 104 per bag. Inflation rates over the same period ranged from 8.7 percent to 14.5 percent (World Bank nd). Moreover, the share of the FOB export price received by the producers decreased from 71 percent in 2010/2011 to 53 percent in 2014/2015.

TABLE 5. SALIENT FEATURES OF FAIRTRADE COCOA IN WEST AFRICA (PROVISIONAL DATA FOR 2012/2013) (FAIRTRADE INTERNATIONAL 2014)

	Cameroon	Côte d'Ivoire	Ghana	Sierra Leone	Other	Total
Number of producer organizations	2	52	11	4	2	71
Number of farmers under Fairtrade certification	1550	33 300	96 900	6800	1240	138 800
Fairtrade cocoa production (tonne)	1110	85 700	45 800	600	160	133 400
Area under Fairtrade cocoa production (ha)	1770	177 640	146 800	6280	2370	334 900
Sales under Fairtrade conditions 2012/2013 (tonne)	90	11 000	31 300	240	20	42 600
Fairtrade Premium received 2012/2013 (euro)	14 400	2 296 400	4 842 400	34 700	3800	7 191 700
Average area of cocoa plot (ha)	5.1	5.3	1.6	2.7	1.9	2.6

3.2 Cocoa production

Cocoa production in Ghana tripled between 1995 and 2014, from roughly 300 000 tonnes to 897 000 tonnes. COCOBOD support measures have played a strong role in the increase (see section 3.3), including introduction of free pest- and disease-control programs; the introduction of packages of hybrid seeds, fertilizers, insecticides and fungicides; improved marketing facilities; and road repair in cocoa-growing areas (Asante-Poku and Angelucci 2013). However, most cocoa farms are small (2 ha or less) and the average yield of most cocoa growers has remained low (Wessel and Quist-Wessel 2015), from 400 to 500 kg, compared with other major cocoa-growing countries; for example, yields in Côte d'Ivoire have been from 500 to 600 kg ha⁻¹ during the past 20 years (Wessel and Quist Wessel 2015). The lower yields in Ghana stem from inadequate management and input use, the age of many cocoa plots and the fact that planting of potentially high-yielding Amazon hybrids has hardly increased. Trials in the Ashanti region of Ghana have shown that fertilizers can increase the yield of mature cocoa by 50 percent—even more at sites where environment and management are not the main yield-limiting factors (FAO 2005).

In general, the cocoa sector in Ghana, as in other cocoa-growing countries, has struggled with cocoa diseases and pests. The diseases are the cocoa swollen shoot virus (CSSVA) and the black pod disease, while the major pest is the mirid. In the past, virulent strains of CSSVA have destroyed large cocoa areas in Ghana. Removal of millions of infected trees and planting of virus-tolerant hybrid cocoa have controlled the disease in Ghana to a certain extent but have not prevented the occurrence of virus outbreaks in newly planted areas (Wessel and Quist-Wessel 2015). Black pod in Ghana can lead to losses of 40 percent or higher.

Regular removal of infected pods and shade reduction to lower the humidity can reduce pod losses to a certain degree, but additional chemical control by regular spraying of fungicides is usually needed. Most farmers, however, are unable to adopt this technology due to higher costs of fungicides and application problems (Wessel and Quist-Wessel 2015). Mirids, insects that feed off young twigs and fresh leaves, can cause annual crop losses of about 25 percent in Ghana. Although proper shade management can prevent major pest outbreaks, additional chemical control with insecticides is often needed.

3.3 Political, legal and regulatory framework

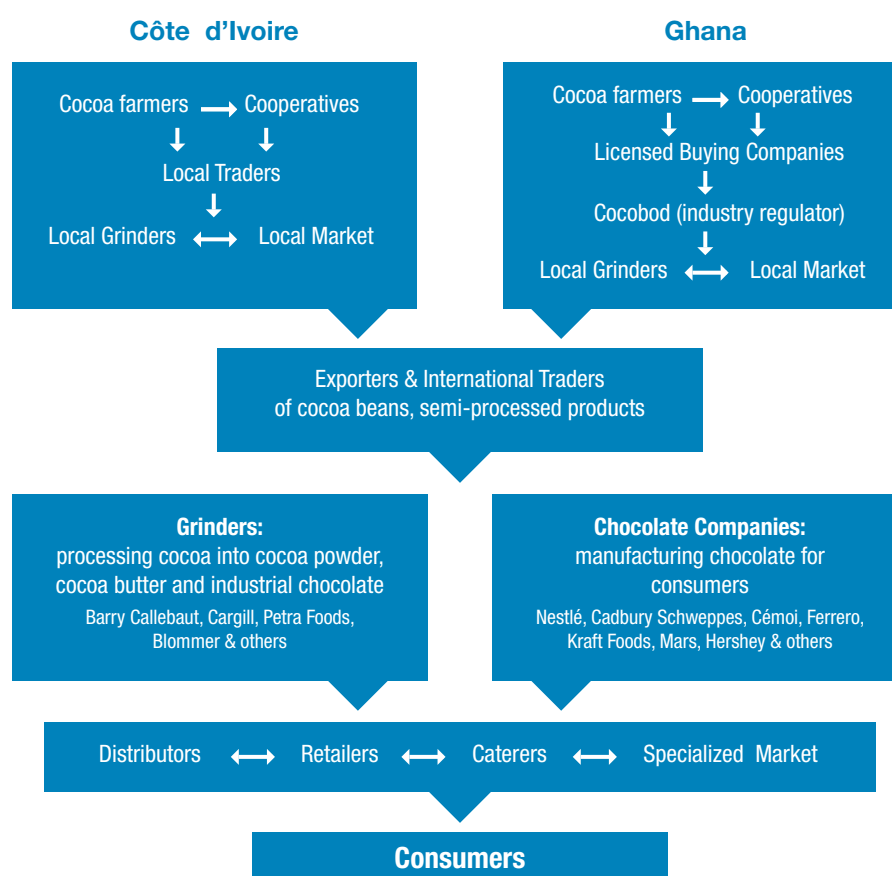
The cocoa sector is and has been one of the principal economic backbones of Ghana for decades. In the 1960s, it was the country's principal foreign exchange earner, with contributions from the cocoa sector of up to 45 percent. In the early 1990s, cocoa's contribution to total export value still averaged 35 percent and, with the diversification of Ghana's economy, it currently contributes about 25 percent. The sector provides income to about one million farmers and many other stakeholders in the cocoa value chain. The crop is grown in six out of Ghana's 10 regions and constitutes the main source of income for hundreds of thousands of farmers.

The state plays a strong role in the cocoa sector, represented by COCOBOD as its principal agency. COCOBOD was created in 1947 to oversee the policies and regulations governing the country's cocoa sector. The agency has multiple functions: (1) market brokerage, (2) regulatory body, (3) research on and dissemination of improved planting materials, (4) extension/training, (5) research and (6) monitoring and evaluation. In addition to the COCOBOD main office in Accra, there are five subsidiaries/divisions (COCOBOD nd).

- **Cocoa Research Institute of Ghana (CRIG):** responsible for developing sustainable, demand-driven, commercially oriented, cost-effective and socially and environmentally acceptable technologies that will enable stakeholders to realize the overall vision of the cocoa industry and that of the other mandated crops (coffee, shea, kola and cashew); the substation in Bunso is in charge of research on cocoa, as well as kola and coffee;
- **Seed Production Unit (SPU):** dissemination of improved planting materials (pods and seedlings) through 27 regional Cocoa Seed Gardens;
- **Cocoa Swollen Shoot Virus Disease Control Unit (CSSVD-CU):** responsible for the control of cocoa swollen shoot virus disease, rehabilitation of old and unproductive cocoa farms and extension services;
- **Quality Control Company Limited (QCC):** responsible for maintaining the quality of cocoa and other export crops (coffee and shea);
- **The Cocoa Marketing Company (Ghana) Limited (CMC):** a wholly owned subsidiary with sole responsibility for the sale and export of Ghana cocoa beans. It also sells some of the cocoa products from the Cocoa Processing Company in Ghana to overseas destinations. The main office of the CMC is in Accra, but a branch office in London is fully organized to receive bids from buyers for transmission to Accra where the decision is made.

At headquarters, there is a Research, Monitoring and Evaluation Department. COCOBOD also provides support to healthcare, education and other areas of community development within the framework of its corporate social responsibility policy, as well as information on global price trends and its sales policy—though not about the prices it pays to the producers. The prominent role of COCOBOD in Ghana's cocoa supply chain is evident in figure 1.

FIGURE 1. COCOA SUPPLY CHAINS IN CÔTE D'IVOIRE AND GHANA (FAIRTRADE FOUNDATION 2011)



As figure 2 illustrates, COCOBOD controls all Ghanaian cocoa supplies, which are passed on to local grinders, exporters and international traders. It obtains the national cocoa production through LBCs, which currently

number about 35. COCOBOD reverted to the multiple buying system of cocoa purchasing in 1993 following a government decision to reintroduce competition into the internal marketing of cocoa. In their operations, the LBCs

are required to abide by the regulations and guidelines set out in the “Regulations and Guidelines for the Privatization of Internal Marketing of Cocoa” issued by COCOBOD. Prospective buyers initially apply to COCOBOD for consideration to be licensed as buyers. Upon vetting by an independent committee set up for that purpose, successful applicants are granted provisional licenses that may be converted to full licenses if COCOBOD is satisfied that the provisional licensees have adequate operational logistics for effective operation. The Produce Buying Company Ltd

(PBC), which is an LBC and subsidiary of COCOBOD, controls a fairly large portion of the internal market and thus exerts strong competition on the remaining LBCs. There are various LBCs that operate in the same communities as the sample cooperative unions and their members, many of which already offer some degree of access to standards systems (table 6) and others that are likely to be the process of building programs to engage with standards systems.

TABLE 6. LBCS IN GHANA WITH ACTIONS IN COMMUNITIES NEAR SELECTED COOPERATIVE UNIONS

Name of cocoa buyer (LBC)	National or international ownership	Engagement with standard systems (actual or planned)	Sampled cooperative unions operating in same catchment area
Produce Buying Company	Ghana	UTZ (collaboration with Cargill and Solidaridad) ¹	Coop1, Coop2, Coop3, Coop4
Armajaro Ghana Limited	International (UK)	Rainforest Alliance, Fairtrade	Coop1, Coop2, Coop3, Coop4
Kuapa Kokoo Limited (KKL)	Ghana	Fairtrade	Coop1, Coop2, Coop3
Adwumapa Buyers Limited	Ghana		Coop1, Coop2, Coop3
Akuafo Adamfo Marketing Company	Ghana	UTZ ²	Coop1, Coop3, Coop4
OLAM	International (Singapore)	Rainforest Alliance ³	Coop1, Coop2, Coop3, Coop4
Transroyal Ghana Limited, Cocoa Merchants, Federated Commodities Limited (FEDCO)	Ghana (owned by Global Haulage Company Limited)	UTZ (FEDCO granted approached by COCOBOD to engage) ⁴	Coop1, Coop2, Coop3, Coop4
National Trust Holding Company (NTHC)	Ghana		Coop3

1 <http://www.cargill.com/news/releases/2013/NA3073443.jsp>

2 <http://fintradegroup.com/articles/sustainable-cocoa-farming-what-does-it-really-mean/#.VxEFVBMLJA>

3 <http://www.bloomberg.com/news/articles/2011-12-06/olam-rainforest-alliance-launch-1-million-ghana-cocoa-project>

4 <http://fedcoghana.com/page/cocoa-certification/>

All LBCs purchase cocoa from farmers at a minimum producer price set by a Producer Price Review Committee (PPRC) made up of COCOBOD officials, a farmers’ representative, government representatives and representatives of the LBCs. The LBCs purchase their cocoa through buying centres that are established in the cocoa production areas. The PPRC adjusts the producer price upwards or downwards each time there is a significant change in the world market price. As a result, the price paid to producers may be lowered in response to world market prices (GAIN 2012). In general, most of the cocoa Ghana produces is sold in advance of the harvest season via forward contracts, allowing COCOBOD to set yearly producer prices also in advance of the harvest season (Kolavalli and Vigneri 2011).

Recently, various LBCs have begun to engage with international cocoa buyers and NGOs to support cocoa

communities in Ghana through access to technical assistance and in some cases, collaboration includes support for access to standards systems (e.g. FEDCO with Chocolate Frey, Akuafo Adamfo with Fintrade Group; OLAM with Mondelēz International, World Vision, Care International and the United Nations Development Programme).

In the early 2000s, the government set a goal to reach producer price levels of 70 percent of the export price (FOB). As a result, producer prices increased from 56 percent of FOB in 1998/1999 to 70 percent in 2004/2005 (Ministry of Finance 1999) and 76 percent in 2011/2012 (Laven and Boomsma 2012). However, it has recently dropped from 72 percent in 2012/2013 to 50 percent and 53 percent in 2013/2014 and 2014/2015, respectively. While the principle of fixed prices—allowing farmers to obtain a stable income and plan accordingly—is well-intentioned, the system has been criticized for the fact that

LBCs are expected to scrupulously respect the producer price and are therefore not allowed to buy below, and neither are they encouraged to pay farmers more than the fixed price. In addition, the system does not give farmers the opportunity to obtain higher prices based on quality or other special attributes.

From the perspective of cocoa growers and cooperatives in Ghana, the strong role of the state in the cocoa sector has had positive and negative implications. On the upside, the state provides support in research, seed production, disease control, quality control and marketing. COCOBOD also has a Research, Monitoring and Evaluation Department and provides support to healthcare, education and other areas of community development within the framework of its policy on corporate social responsibility. On the downside, the state's multifaceted support to the cocoa sector comes at a price: despite the government's goal to reach producer price levels of 70 percent of the FOB export price, producers currently receive only little more than half of it. The state's role for producing quality cocoa is undisputed—acknowledged by the premium above the world market price. But given COCOBOD's investment in research and extension, it comes as a surprise that Ghana's cocoa yields have been on average 25 percent below those of the 10 largest cocoa-producing countries in the world and nearly 40 percent below those of neighbouring Côte d'Ivoire. Low yields have been attributed to the relatively old age of Ghana's cocoa trees, pests and diseases (e.g. black pod and mistletoe), low investments in cocoa farming, and the absence of widespread row planting (Mohammed, Asamoah and Asiedu-Appiah 2011). In a 2013 assessment of the Ghanaian cocoa industry, FAO draws the following conclusion (FAO 2013):

It is not clear if the costs of maintaining the current organizational structure are really compensated by the benefits, at least in terms of revenues generated at the producer level, as it appears that the advantage of producing high quality cocoa is not transferred to the farmers.

In recent years the certification environment in Ghana has changed significantly. Currently, four certification schemes operate in Ghana: Fairtrade, Rainforest Alliance, Organic and UTZ Certified. In addition, differentiation of cocoa beans has been introduced (fine flavour, fully traceable, tray-fermented). Because the Cocoa Marketing Company now allows for the physical separation of certified cocoa from conventional cocoa (although it maintains control over financial transactions), direct links between private buyers and farmer groups are being created. Major cocoa buyers are getting involved in certified cocoa in Ghana. For example, Cargill plans to work with 15 000 farmers to source some 2500 tonnes of UTZ Certified cocoa in the first harvest—processed in Cargill's plant in Tema, Ghana. In 2013, UTZ Certified placed a professional representative in the Côte d'Ivoire to coordinate the activities for UTZ

Certified in West Africa, including Ghana. There is growing recognition that Ghana's LBCs are willing and able to invest in certified and traceable cocoa as part of the global trend of the chocolate and cocoa industry towards certified cocoa. There have been calls for COCOBOD to play a stronger role in establishing Ghanaian standards in the cocoa trade. The COCOBOD-led Cocoa Platform will engage interest groups to discuss and decide how to develop and harmonize cocoa certification programs. These programs require that farmers' social, environmental and economic activities are in line with lawful labour practices in exchange for a premium price for the produce.

In general, the institutional environment in Ghana currently presents some important challenges for the growth of Fairtrade cocoa: relatively low farm-gate prices, limited sales of Fairtrade cocoa under Fairtrade terms and few consolidated cooperatives. The following contextual factors are relevant in assessing the performance of Fairtrade in Ghana as well as the capacity of smallholders and cooperative unions to participate in and benefit from Fairtrade cocoa:

- Producer prices. These are fixed by a Producer Price Review Committee (PPRC), made up of COCOBOD officials, a farmers' representative, government representatives and representatives of the LBCs. Producer prices follow the world market prices, plus a premium Ghanaian cocoa receives for its quality.
- Producer prices as share of FOB export prices. The state, through COCOBOD, provides multiple services to the cocoa sector but currently retains up to half of the FOB export price.
- Production of Fairtrade cocoa as a portion of total production. Currently the volumes of Fairtrade cocoa in Ghana amount to about 6.1 percent of national production.
- Share of Fairtrade cocoa sold as such. Currently, about 49 percent of Fairtrade cocoa is sold under Fairtrade terms.
- Diversity of Fairtrade cocoa buyers. Promotion of Fairtrade will be evidenced by the number of Fairtrade cocoa buyers and the nature of the arrangements negotiated by COCOBOD.
- Certification systems. This focus is on how other certification systems advance—namely UTZ and Rainforest Alliance—and the factors facilitating their expansion.
- Access to certified cocoa. Indications are the investments by and interactions of international buyers and LBCs with smallholders, cooperative unions and COCOBOD to secure access to Fairtrade and other certified cocoa.

4

COOPERATIVE UNION ASSESSMENT

The four cooperative unions selected for inclusion in the baseline are identified as Coop1, Coop2, Coop3 and Coop4. All of these cooperatives and the primary societies attached to them were formed between 2011 and 2012 by external actors with the intention of linking smallholders to certified Fairtrade markets for cocoa. Three were created within the framework of a major project aimed to revitalize cocoa production in Ghana (Cocoa Life project) and the other, with the assistance of the LBC Armajaro. The Department of Cooperatives provided assistance in the formation process, especially in setting up primary societies at the community level. Cooperative members often refer to their cooperatives as Fairtrade cooperatives because they were created with the intention of linking them to Fairtrade cocoa markets. At the time of data collection, the case study cooperative unions had not engaged in the purchase, processing or marketing of cocoa—they existed to coordinate with LBCs, NGOs and government agencies and to provide services to their members and facilitate access to Fairtrade certification for them. Assessments of the current asset endowments and potential gaps in asset endowments should be viewed in this light. In the text that follows, we present information that corresponds to each of the cooperative baseline indicators (see table 4 for a list of indicators). The discussion is organized in four sections, one for each type of capital (human, social, physical and financial). None of the cooperatives had natural capital so no information was recorded in this category of asset. At the end of each of the four sections, we present a summary table with our overall appreciation of the status of the indicator, our justification for the appreciation and implications for future monitoring efforts by Fairtrade International, the cooperative unions and other stakeholders.

4.1 Social Capital—Fairtrade cooperative unions

4.1.1 Relationships with members

Cooperative unions, with membership ranging from 1483 to 3450, are linked to their members through the primary societies. The primary societies play a limited role in the overall governance structure, mainly related to selecting representatives to participate in their union's general assembly and facilitating decision making on the use of the Fairtrade Premium. The four cooperative unions were officially registered in the 2011 and 2012 production seasons and were Fairtrade-certified in 2012 (table 7). They had no other certification in addition to Fairtrade, nor were they in the process of obtaining another type of certification. The number of primary societies affiliated to each union varies from a low of 27 (Coop3) to a high of 52 (Coop4).

Since their creation, membership in the cooperative unions has more than doubled in three of the case study cooperatives, falling slightly in Coop3. For the three cooperatives that experienced membership growth, new members were likely attracted by the opportunity to receive training in cocoa and the Premiums that members received from Fairtrade. In the case of Coop3, membership dropped from 1574 to 1483. Various reasons were advanced by the leadership of the cooperative, including expulsion of primary societies because of lack of leadership and disrespect of by-laws and inaccurate membership lists in the early stages of organization. Women represented from 32 to 42 percent of membership in the four cooperative unions. Information on age distribution of members was not available.

TABLE 7. MEMBERSHIP IN COOPERATIVE UNIONS, FROM YEAR OF REGISTRATION TO 2014

Coop	Year of registration	# primary societies at creation	# primary societies in 2014	# members at creation	# members in 2014	Year of Fairtrade certification	% female members belonging to union in 2014
Coop1	2011	17	41	1050	3450	2012	42
Coop2	2011	18	36	714	1652	2012	38
Coop3	2012	27	27	1574	1483	2012	32
Coop4	2011	N/A	52	N/A	1964	N/A	N/A

During household data collection, respondents identified one aspect of cooperative union membership that they most and least appreciated. Figure 2 and figure 3 provide a summary of these responses. The most identified positive aspect was the cooperative unions' capacity to facilitate or provide access to technical assistance and training. This was followed by effective communication by the unions, provision of inputs for cocoa production and transparent leadership. Relatively few members were willing to identify

what they least appreciated regarding their participation in the cooperative unions. When negative appreciations were made, they tended to focus on insufficient inputs provided to effectively intensify cocoa production (mainly fertilizers and pesticides), low premiums provided to the primary societies and members, and weak management of the cooperative unions (e.g. limited transparency in decision making).

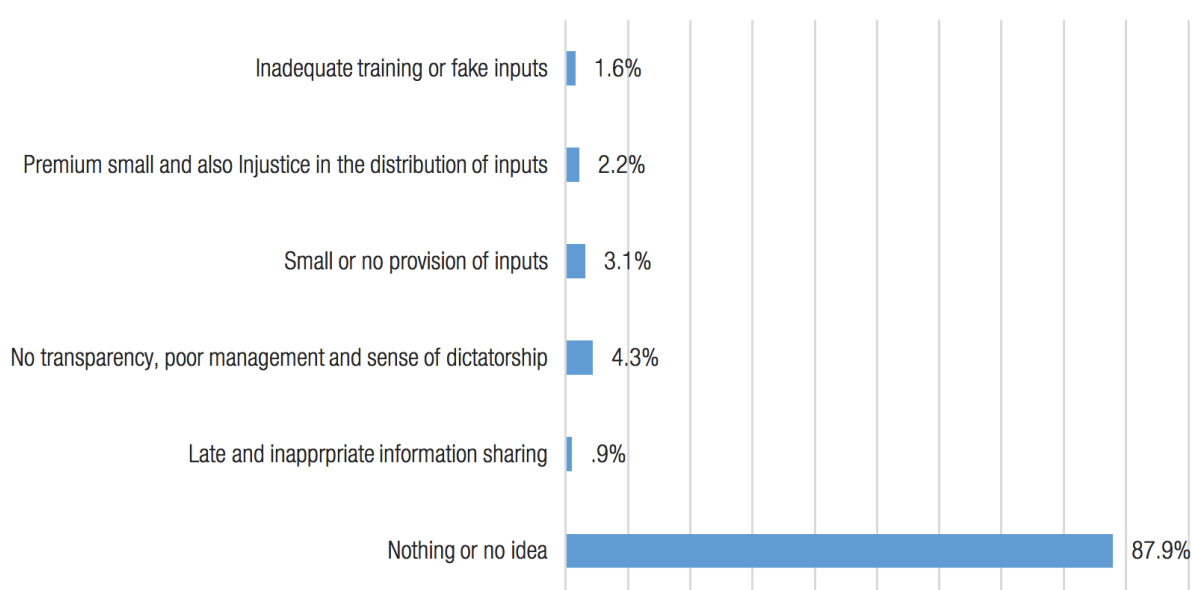
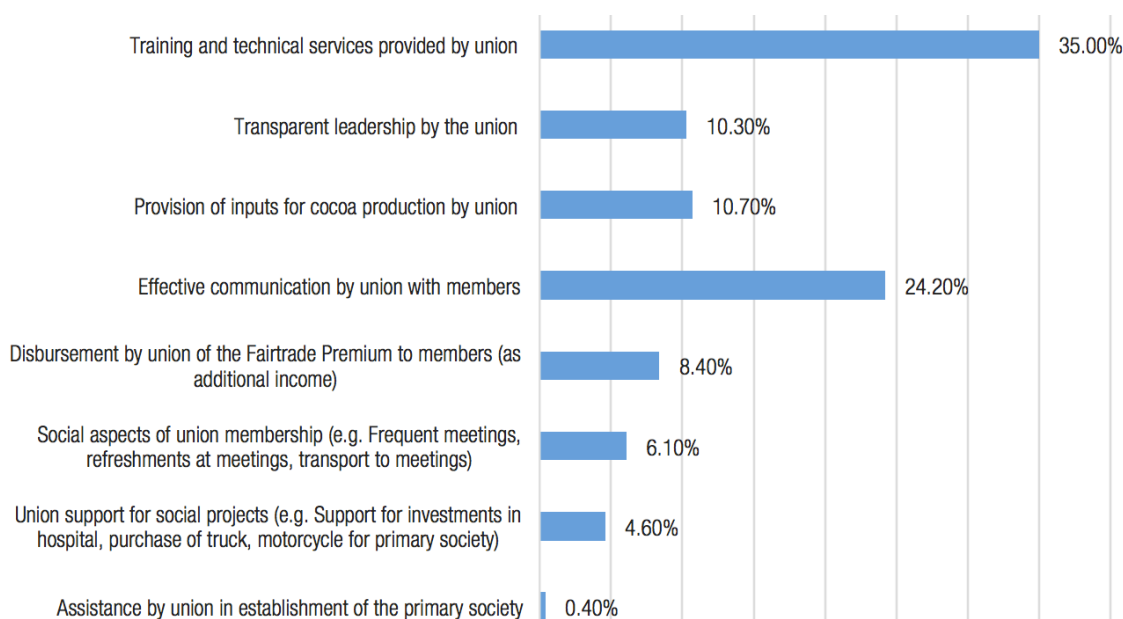
FIGURE 2. ASPECTS OF COOPERATIVE MEMBERSHIP LEAST APPRECIATED BY MEMBERS

FIGURE 3. ASPECTS OF COOPERATIVE MEMBERSHIP MOST APPRECIATED BY MEMBERS



Reflections on findings

- Consultation with cooperative leaders and members will be needed to identify the information needs and current challenges to improve communication between administration of the cooperative and the membership base.
- The percentage of female members in the sampled cooperatives is roughly in line with the percentage of female members in the Kuapa Kokoo cooperative union (32 percent)—the largest and longest-standing Fairtrade cooperation union in Ghana; see <http://www.fairtrade.org.uk/en/farmers-and-workers/cocoa/kuapa-kokoo>.
- The most appreciated aspect of cooperative union membership appears to be access to services and inputs. Given that the cooperative unions receive considerable external support for provision of training and technical assistance services, there is a need to carefully monitor the capacity of unions to deliver services.

4.1.2. Relationships with service providers

All of the cooperative unions managed important partnerships with different national and international NGOs, government agencies, LBCs and chocolate manufacturers (table 8). The two most important international NGOs for the sampled unions were CARE International and World Vision. These NGOs supported a given union in different ways, with a focus on improving the entrepreneurial skills of farmers and their organizations through capacity building, business skill development and decision making. The NGOs engaged the cooperative unions within the frameworks of large-scale projects designed and co-financed by cocoa buyers and chocolate companies. For example, Mondelēz International—the world’s largest buyer of Fairtrade cocoa—started the Cocoa Life project with CARE International, World Vision and Volunteer Service Overseas (VSO). The NGOs provide capacity building to farmers by offering different training modules (focused on cocoa production)

to the cooperative unions and their primary societies. The project was launched in 2012, with plans to invest about USD 400 000 by 2022 to improve the conditions of some 2 million cocoa farmers and reach 1 million farmers in major cocoa-growing countries, including Ghana and Côte d’Ivoire. All four cooperatives were among a group of some 212 cooperatives that were supported by the above-mentioned NGOs, Fairtrade and others to build their capacity to become Fairtrade-certified. As such, all four cooperatives had received technical support and training by Fairtrade business development advisers that aimed to help the cooperatives meet Fairtrade principles and standards. No information was provided related to other services such as credits and inputs provided by NGOs. However, CARE International had a rural savings-and-loan scheme targeted largely to women. The scheme had not been designed for cocoa cooperatives; rather, it was accessible to the entire community.

TABLE 8. COOPERATIVE UNION COLLABORATIONS WITH LBCS, GOVERNMENT AGENCIES AND NGOS

Partners	Collaborating Union	Function
Armajaro Ghana Limited (LBC)	Coop3	Armajaro Ghana performs the following functions: (1) serves as a link between the union and Armajaro London; (2) provides technical advice in the selection and recruitment of the union manager; (3) ensures that the group receives farm inputs at the right time; and (4) trains the group on good agricultural practice. The group has an MOU with Armajaro London. The MOU is renewable every two years. Both parties have to notify the other at least one year in advance if they wish to end the contract.
Commodity Management Service–CMS (community development NGO of major international buyer)	Coop3	Provide inputs and trainings to Coop3.
Department Of Cooperatives (government agency)	Coop1 Coop2 Coop3 Coop4	Department of Cooperatives provides the following services: (1) sensitizes communities on group formation; (2) provides training on leadership and cooperative management; (3) provides conflict resolution; (4) audits records; (5) organizes meetings and reporting; and (6) facilitates registration (e.g. assist in development of by-laws).
Ministry of Food and Agriculture–MOFA (government agency)	Coop1 Coop2 Coop3 Coop4	Ministry of Food and Agriculture provides basic extension services for on-farm activities related to staples, livestock and other crops essential for food security.
CARE and World Vision (linked to Cocoa Life project) (international NGOs)	Coop1 (CARE) Coop3 (CARE) Coop4 (World Vision)	Sensitize communities on community development. They are the implementing partners of the Cocoa Life project and work on five pillars: (1) community development; (2) sustainable development; (3) environmental sustainability; (4) youth empowerment in agriculture, and (5) additional livelihood or diversification of cocoa farms. Institutional engagement: provide assistance in the search for qualified resource persons to train the community on different themes.
COCOBOD CSSV (government agency)	Coop1 Coop2 Coop3 Coop4	Provides a range of services related to cocoa, including agricultural extension services and also (1) trains on good agricultural practices related to cocoa production (e.g. pruning, weeding, line pegging, shade management, environmental protection, choice and usage of agrochemicals, supply inputs including good planting materials); (2) seeks out external markets for cocoa; (3) assigns minimum producer prices for cocoa; (4) contracts loans on behalf of LBCs; and (5) trains union and society members on efficient and safe methods to apply chemicals and on good agricultural practices.
Mondelēz (cocoa buyer)	Coop1 Coop3 Coop4	Serves as the main donor of the Cocoa Life project; buyer of certified cocoa from COCOBOD and TALOCA (local buying wing of Mondelēz)
Fairtrade Africa West Africa office, Ghana	Coop1 Coop2 Coop3 Coop4	Educates cooperative members on Fairtrade principles, especially about Standards; ensures that the union receives Premium; provides link between producers and buyers of Fairtrade cocoa; ensures compliance with Standards.

Cooperative union leaders conveyed a basic although somewhat confused understanding of Fairtrade aims.

One cooperative union leader described Fairtrade as “an organization that teaches us transparency, group cohesion, democratic principles and forces us to respect child labour and environmental principles on our cocoa farm.” The union leaders believed that they and the cooperative members had benefited from capacity-building programs aimed at improving cocoa production techniques and gained enthusiasm for community development. They

also considered the Fairtrade Premium to have provided a powerful incentive for cocoa-farming households to join the cooperative union. Union leaders reported that farmers were generally satisfied with the training they received from the cooperatives. However, the leaders sometimes found it difficult to differentiate between Fairtrade activities and those executed within the Cocoa Life project and others carried out through government interventions with no link to Fairtrade.

Reflections on findings

- The cooperatives were highly dependent on a single NGO or LBC. Neither the NGO nor the LBC is likely to cover the range of needs of the cooperatives for their growth and development, leaving the cooperatives extremely vulnerable should external support terminate. This suggests a role for Fairtrade and others to support the cooperatives in improving their access to services.
- The baseline is unable to address (1) the utility of current services, (2) the cooperatives' need for services (technical, business development and financial) or (3) the availability of local support services. Identification of the utility of existing services and the needs for additional services should involve structured discussions between stakeholders and external facilitators (Stoian and Donovan 2006). Any discussion on needs for services should be based on a sound strategy for business development (which the cooperatives lacked).

4.1.3 Volumes and quality of cocoa traded

The cocoa quantities sold by each union increased between 2012/2013 and 2013/2014 (table 9). Within this period, the volume of cocoa sold as Fairtrade also increased for all of the cooperatives for which data was available. Union leaders strongly argued that the increase in production resulted from two factors: (1) the dramatic increase in membership levels during the same period and (2) the adoption of good agricultural practices in cocoa (e.g. tree

replacement and pruning)—the latter was most stressed by the leaders and was confirmed by farmers during focus group discussions. However, the relative percentages of total production sold as Fairtrade diminished over the same period except for Coop3—data for 2012/2013 for Coop4 was not available. As explained in subsequent sections of this report, farmers fear that as more members join the union, the percentage of the union production sold as Fairtrade cocoa will continue to drop unless the unions are able to increase the volume of their cocoa sold as Fairtrade.

TABLE 9. QUANTITY AND VALUE OF COCOA SOLD THROUGH CONVENTIONAL AND FAIRTRADE CHANNELS

Union	Year	Total volume transacted (tonnes)	Percent sold as Fairtrade	Value of total volume transacted (USD)*	Value of premium received (USD)*
Coop1	2013/2014	5537	36	3 870 217	379 355
	2012/2013	1034	63	376 555	87 906
Coop2	2013/2014	1500	53	N/A	160 000
	2012/2013	300	80	N/A	48 000
Coop3	2013/2014	1483	44	1 593 022	130 000
	2012/2013	1193	43	1 280 591	27 000
Coop4	2013/2014	814	98	2 368 952	51 612
	2011/2012	714	35	719 484	

*USD 1 = GHS 3.1

Leaders across the sampled cooperatives dismissed the notion that their members' cocoa could be rejected due to poor quality. They argued that the typical Ghanaian farmer does not differentiate cocoa by particular quality attributes—since all cocoa that is free of defects fetches the same price at the producer level. The cooperative union leaders further attested that farmers do not know of any other means of producing cocoa that will not meet specified quality standards. In other words, they only deliver

cocoa that is acceptable to LBCs. The cooperative leaders noted that they have encouraged the production of quality cocoa through trainings and have never received negative feedback from LBCs. On the contrary, they cited positive feedback from the purchasing clerks, who appreciate the humidity and taste of cocoa produced by their unions. According to the union leaders, quality cocoa can be attributed to the assistance from LBCs and to members of the Cooperative Control Committees, whose task it is

to ensure that cocoa is properly fermented and sun-dried. Corroborating the response of the cooperative leaders is the fact that cocoa production has a long history in Ghana, with considerable support from the state to help growers meet minimum quality expectations.

Interviews with key-informants suggested forms of small-scale cheating that might exist in the marketing systems. First, it was claimed that some cooperative union members, in search of higher Fairtrade bonuses, buy cocoa from non-members and sell this cocoa as part of their production. Second, informants mentioned that purchasing clerks from the LBCs may under-report volumes of cocoa delivered by farmers who sometimes cannot read the figures entered.⁵

The extent of these problems and the implications for growers are unknown. Beyond this baseline, the Internet is replete with discussions on the alleged cheating of cocoa farmers by purchasing clerks through adjustment of their scales to their advantage.⁶ However, any rigorous research on this subject is lacking. The cooperative union leaders (who typically are not present when members' cocoa is delivered to purchasing clerks) have attempted to sensitize the clerks to the need for fair and accurate weighing of cocoa and have advised members to make sure the correct transacted volumes are recorded in farmers' passbooks.

Reflections on findings

- The percentage of cocoa sold on Fairtrade terms by the cooperatives appears to be in line with other cooperatives in Ghana. The data suggests that the volumes produced by cooperatives will continue to rise as more members subscribe to the unions and adopt good agricultural practices. An important measure of the potential of Fairtrade to improve outcomes at the cooperative and household levels is the percentage of cocoa sold as Fairtrade-certified. Here, the data presented considerable variation, and in some cases, the percentage of cocoa sold as Fairtrade was considerably low.
- The extent to which members purchased cocoa from non-members and sold to LBCs through their local purchasing clerks as Fairtrade remains unknown—a deeper discussion between Fairtrade stakeholders is warranted to understand the existence of these possible problems and their spread through the system.

4.1.4 Trading relationships

Various LBCs purchase cocoa in the districts where members of the sampled cooperative unions are located. Table 10 presents a non-exhaustive list of these LBCs, identified during focus groups. In most cases, members of the cooperative unions are free to deliver their cocoa to any of the LBCs without worry about violation of union statutes. Members can sell to either the Fairtrade-certified LBCs linked to the cooperative or any other LBC, provided it is not Fairtrade-certified (thus avoiding the double counting of Fairtrade-certified cocoa at the national level.

Some cooperative union leaders expressed preferences for specific LBCs and have advised their members to sell to these LBCs. For example, most members of Coop1 sell to Adjumapa because it was the first to offer to buy all the cocoa produced by cooperative members. Only in the case of Coop3 do the cooperative union's statutes oblige members to deliver their cocoa beans to LBCs associated with Armajaro.

⁵ Fairtrade International and the company that conducts audits of the Fairtrade Standard, FLO-CERT, take allegations of fraud in the purchasing of Fairtrade products at the source very seriously. A complaints procedure in both organizations allows issues relating to misconduct around the Standard to be reported. This point has been raised with Fairtrade International.

⁶ On April 16, 2016, there were 63 400 hits on Google with key words "Ghana cheating weighing cocoa." These allegations relate to cocoa production in general and not specifically to Fairtrade production, and there is no specific evidence that Fairtrade cooperative unions are involved in such activities.

TABLE 10. LBCS OPERATING IN SAME DISTRICTS AS SAMPLED COOPERATIVE UNIONS

Name of LBC	Source of capital	Engagement with standards systems	Cooperative unions operating in same districts as LBC
Produce Buying Company Limited	Ghana	UTZ Certified	Coop1, Coop2, Coop3, Coop4
Armajaro Ghana Limited	International	Rainforest Alliance, Fairtrade	Coop1, Coop2, Coop3, Coop4
Kuapa Kokoo Limited (KKL)	Ghana	Fairtrade	Coop1, Coop2, Coop3
Cocoa Merchants Ghana Limited	International	None	Coop1, Coop3
Adjumapa	National	None	Coop1, Coop2, Coop3
Akuafo Adamfo Marketing Company	Ghana	UTZ Certified	Coop1, Coop3, Coop4
Olam International	International	Rainforest Alliance	Coop1, Coop2, Coop3, Coop4
Trans Royal Ghana Limited	Ghana	None	Coop1, Coop2, Coop3, Coop4
National Trust Holding Company (NTHC)	Ghana	None	Coop3
Federated Communities Limited (FEDCO)	Ghana	None	Coop1, Coop3

All of the sampled cooperatives had an agreement, although usually an informal one, with an LBC for the purchase of Fairtrade cocoa. Only Coop3 had a written agreement with Armajaro Ghana Limited and its UK-based parent company Armajaro Trading.⁷ The agreement specifies the terms of trade and provides an opportunity for union leaders to request loans and other services from Armajaro Ghana to supply inputs to farmers. The agreement does not specify the quantity of cocoa the union has to sell to the buyer, nor does it specify what percentage of the union's cocoa production passes through Fairtrade or through the conventional channel. In Coop3, every union member is compelled to sell to Armajaro; failure to do so can result in the member's being expelled from the union. The control committee of the union ensures that members do not sell to any other LBC. This may not be a bad principle because it ensures that the union complies with its commitment to the buyer and in this way continues to benefit from services such as loans and trainings. There is limited incentive to sell to any particular buyer, as all tend to offer similar prices to farmers.

Coop2 and Coop4 have a trading relationship with the exporting company Taloca Germany—the commercial subsidiary of Mondelēz. In the case of Coop2, for example, each year Taloca sets aside a number of tonnes of cocoa that it has to buy through the Fairtrade channel from Coop2.

Such contracts are laudable because the union knows upfront the amount of cocoa it can sell through Fairtrade and the amount that must be sold through conventional channels. These cooperative unions have yet to receive any particular service from the LBC beyond its commitment to purchase cocoa on Fairtrade terms. The cooperative union leaders claimed that due to competition from other LBCs, the purchasing clerks easily give out loans to individual farmers to gain more market share. Giving out loans is not specific to the cooperative's members, but the fact that a purchasing clerk may be a member of a given union may increase trust in the cooperative members and thus increase the probability to give them loans. Loan transactions are common in August and September when children go back to school.

The leaders of Coop1, Coop2 and Coop4 identified no grievances against the LBCs that buy their Fairtrade cocoa. Leaders of Coop3 expressed considerable satisfaction with their LBC. For instance, their LBC partnership has enabled a number of trainings that would not have been provided by other LBCs. Overall, the union leaders generally have mixed feelings about their relationship with Fairtrade-certified LBCs. On one hand, they are satisfied because these companies offer access to Fairtrade markets and Fairtrade Premiums and also facilitate access to projects aimed at building their capacity through trainings (the Cocoa Life project was often cited); on the other hand, the LBCs purchase only a small percentage of the total produced by the cooperatives' membership. Cooperative leaders argued that all of their cocoa has been produced under Fairtrade conditions and they expect that all of it should be bought as Fairtrade cocoa.

⁷ In 2014, following data collection for this baseline study, Armajaro Trading was sold to the Swiss company Ecom. The name of Ecom's Ghana-based operations remains the same (Armajaro Ghana Limited). <http://www.ecomtrading.com/en/our-products/cocoa/ecom-cocoa-offices.html>.

The cooperative leaders expressed dissatisfaction, however, with the purchasing clerks representing the LBCs. They accused them of (1) adjusting scales to farmer's detriment;

(2) late payment, which may sometime be as long as two weeks; and (3) charging high interest rates on loans to individual farmers.

Reflections on findings

- The small percentage of cocoa sold by the unions' members on Fairtrade terms presents a challenge to future union membership growth. Leaders are aware that as more primary societies join the union and as these societies grow in membership, the amount that each farmer receives as a Fairtrade Premium will drop unless there is a corresponding increase in the volume of cocoa sold on Fairtrade terms.
- In a relatively short period of time, the cooperative unions have established solid relationships with LBCs for the purchase of Fairtrade-certified cocoa and for the provision of services by the LBCs to the unions. The capacity of stakeholders to formalize their relations and deepen their commitments to building a sustainable partnership is an area for future monitoring and support.
- Currently, only one cooperative union in Ghana, Kuapa Kokoo, is licensed to purchase cocoa. The license allows the cooperative union to receive some prefinancing from the COCOBOD to purchase cocoa and sell it to the Cocoa Marketing Company for a small margin. The margin earned by LBCs is estimated at roughly five percent of the FOB price (Vigneri and Santos 2007).

Summary: social capital held by cooperative unions

Table 11 presents an overall assessment of the status of social capital of cooperative unions, the justification of the assessment, and insights for monitoring and interactions with stakeholders.

TABLE 11. SUMMARY: SOCIAL CAPITAL ENDOWMENT (COOPERATIVE UNIONS)

Indicator	General assessment of current situation*	Justification for assessment
Growth in membership of registered farmers and primary societies	Yellow	The cooperatives count several hundred members despite their short period of existence. Two of the unions have experienced considerable growth in individual membership and one, declining membership numbers. The lack of membership information for Coop4 reflects a lack of basic administrative capacities.
Other services provided to members; trainings provided to members through coops; nature and strength of relations with service providers	Yellow	All unions have partners and have access to some services from buyers, projects and/or government agencies. However, given their rapid growth in membership and the challenge to become sustainable organizations in the near future, there is strong reason to think that the services are too limited in scope and intensity. Which services are most needed and the options for effective delivery of these services remain open questions.
Volume and value of cocoa sold to Fairtrade buyers and other buyers	Red	It is alleged that some members buy cocoa from non-members to increase chances of getting high amounts of Fairtrade bonuses. Three out of the four cooperatives were only able to sell 44 to 53 percent of their cocoa as Fairtrade cocoa. The lack of markets for Ghanaian Fairtrade cocoa is a major hurdle to future growth and development of the cooperatives.
Relations with cocoa buyers (LBCs)	Yellow	Three of the coop unions have informal agreements with an LBC. Only one has a written agreement with an LBC. This agreement sets conditions for LBC support related to loans and input provision. The other unions have only informal relationships with buyers. In general, buyers have avoided deep direct involvement in the cooperative development process.

Indicator	General assessment of current situation*	Justification for assessment
Satisfaction with trading relationships	Yellow	All the coops express satisfaction with their trading relationships. Through their links with the buyers came access to Fairtrade and support from NGOs. However, the cooperatives can sell a limited volume to LBCs. Issues reported with LBCs are related to improper weighing of cocoa and the potential for late payment.
Perceptions of benefits associated with Fairtrade	Green	All union leaders have a basic understanding of Fairtrade and appear to be, on average, satisfied with their engagement with the system.

*Green = overall clear positive situation for cooperative development; Yellow = overall situation provides reasons to be optimistic, but a few critical issues need to be addressed; Red = overall situation is not favourable to the development of viable cooperatives.

4.2 Human capital—Fairtrade cooperative unions

4.2.1 Governance, participation and decision-making processes

All four unions exhibit the basic condition for achieving democratic decision making: one-person, one-vote system, where the highest decision-making body is the general assembly. Members of the general assembly are representatives of primary societies, which may be presidents, secretaries and/or ordinary members of primary societies. The general assembly of the primary societies elects presidents and secretaries. The general assembly of the union is managed by a board of directors. The number

of elected members in the board varies from one union to another, generally consisting of seven to nine members of the general assembly (table 12). Generally, the board of directors makes proposals to the union's general assembly, which may either be approved or rejected. In this way, the primary societies participate in the management of the unions. Depending on the union, the board of directors and the general assembly may hold meetings once a month or once every three months. Extraordinary meetings may be called when need arises. Participation in meetings is often high; on average, at least 80 percent of the general assembly attends. In some instances, ordinary members from the primary societies may voluntarily attend the general assembly meetings of the union as observers.

TABLE 12. PARTICIPATION OF WOMEN AND YOUTH IN GENERAL ASSEMBLY AND BOARD OF DIRECTORS

Cooperative union	Members of general assembly			Members of board of directors			
	Male	Female	Total	Male	Female	Total	Youth
Coop1	82	5 (5%)	87	7	2	9	2
Coop2	53	18 (25%)	71	8	1	9	0
Coop3	50	10 (20%)	60	8	3	11	1
Coop4	N/A	N/A	104	4	1	5	1
Total	185	33 (15%)	212	27	7	33	4

In all the cooperatives, women averaged 37 percent of the total membership but only 17 percent of the unions' general assemblies. The percentage of female members on the board of directors was also disproportionately less. In fact, of a total of 29 available board positions for the four cooperative unions, women occupied only six positions (20 percent); younger people (less than 35 years), only

three positions (11 percent). Most of the women held the position of organizer of activities for women or simply ordinary committee members. None of the women on the boards at the time of data collection occupied the position of board chairperson or assistant chairperson. One of the union managers (from Coop4) was a young woman, while the remaining three managers were young men.

Those interviewed were unable to provide reasons for the low participation of women, but informal discussions with women revealed that most of them lacked confidence in speaking in group settings and had limited experience in business dealings. Other sources suggested that the few women who participate in cooperative management (boards of directors) are merely figureheads—there to respect the principle of gender balance as advocated by Fairtrade. Whether true or not, the perception provides another reason for careful monitoring of the role of women and youth in cooperative union governance.

During interviews, board members from all of the unions indicated that members at the primary society level were disappointed in the board of directors and the hired managers because of limited information on critical aspects of business performance, including financial accounts (e.g.

investments, expenditures, savings), market trends and buyer relationships, and management strategies. This was especially the case for Coop2, and efforts have been made to address the situation by changing the manager of the union. In fact, none of the unions have a clear procedure for sharing information in a timely fashion. They tend to rely on informal mechanisms for spreading information and may call meetings when important information is to be disseminated to members. Important resolutions are put on the notice board of the union office, but in all likelihood, relatively few members visit the union office. Some resolutions can also be found in the books of minutes of either the primary societies or unions, but such information is often difficult for most members to retrieve. Even for members with access to the minutes, the fact is that the resolutions are poorly recorded.

Reflections on findings

- The cooperatives are designed to allow for member participation, and members actively participate in the general assembly meetings. There was evidence that the democratic process has worked in these organizations. **For example, the fact that one union's manager was replaced because the members were not happy with his performance demonstrates positive progress.**
- Future progress will depend on various other factors, including members' access to timely information, members' capacity to engage in discussions and debates with management, and management's willingness to engage members in decision-making processes. More in-depth discussions with members would be necessary to fully understand the context for participatory decision making (e.g. who holds power, how power is shared and how decisions are communicated).
- Regarding female participation in cooperative governance, the baseline suggests that considerable room exists for improved participation of women (e.g. limited experience in business matters, reluctance to speak out). Building increased female participation will take time and a deliberate effort by cooperatives and their supporters. Formulation of a strategy that sets out achievable goals and practical steps to achieve them is recommended.
- The baseline provides mixed results on information sharing. While basic information is being shared with members (e.g. training events), the main mechanism for information sharing appears to be informal meetings. Information on critical aspects of cooperative union operations and performance remains scarce.

4.2.2 Capacity for business administration

The cooperatives possess various types of policy documents, strategies and other documents to guide decision making. Table 13 identifies the documents reported during data collection. In the context of this baseline, it was not possible to assess the implementation of the actions identified in the documents or the implications of these actions on the cooperatives or their members.

- Business structure. Decision making in each cooperative union is guided by an established set of by-laws. In addition, each union has a number of committees or working groups. The activities of

each committee or working group are guided by specific policies and/or strategic documents. None of the unions have a business plan or carry out basic bookkeeping (no evidence of balance sheets, profit and loss statements). The same holds at the level of primary societies.

- Child labour policy. Three of the unions have a policy. The policy defines a child as a person under the age of 18 and makes clear the work that is beyond the physical capacity of a child. The child labour policy affirms, according to International Labour Organization Convention No. 182, that child labour affects children mentally, physically, socially and morally. A Child Labour

Committee (CLC) monitors parents and advises them about children's education. The CLC also ensures that (1) school-age children are enrolled in school, (2) children under 18 do not do hazardous jobs and (3) households are sensitized in churches and community centres about child labour.

- Environmental policy. Implemented by the Environmental Committee within each cooperative, the policy commits the cooperative to compliance with existing environmental legislation. The committee specifically ensures that (1) members avoid the use of unapproved chemicals for the treatment of pest and diseases, (2) bodies of water are protected within or

close to farms as well as wild fauna and (3) members are conscious of occupational health and safety at all times during farming operations.

- Fairtrade development plan (FDP). These plans, which are developed on a yearly basis, guide investment decisions by the cooperative unions. Appendix 1 presents examples of FDPs. Past investments have included, for example, renovation of existing school infrastructure, construction of new school buildings and buying of desks. For each project listed in the FDP, a team is assigned to monitor its execution and promote effective implementation.

TABLE 13. AVAILABILITY OF POLICY/STRATEGIC DOCUMENTS

Policy/strategic document	Availability of document			
	Coop1	Coop2	Coop3	Coop 4
Child protection/ child labour	Yes, available in paper and electronic formats	In process	Yes, available in paper and electronic formats	Yes available in paper format
Gender	No	No	Yes, available in paper and electronic formats	Yes, available in paper and electronic formats
Environment/ climate change	Yes, available in paper and electronic formats	No	Yes, available in paper and electronic formats	Yes, available in paper and electronic formats
Income diversification/ food security	No	Yes, report on plantain production	Yes, available in paper and electronic formats	Yes, available in paper and electronic formats

The cooperative unions set up the following committees for the implementation and oversight of policies, procedures and strategies:

- Premium Committee. All of the cooperative unions had a Premium Committee elected by the general assembly to make decisions on Premium distribution. The Premium distribution identifies how the Fairtrade Premium from cocoa sales will be used, for example in community development, shared as individual bonuses and invested in supporting the cooperative unions and primary societies. The proposed plan is submitted to the general assembly for approval.
- Control Committee. Interactions with Coop1 indicated the role of the Control Committee is to be in charge of the internal audit of the cooperative unions. (Coop1 was the only sampled cooperative union to have established such a committee.) The committee has jurisdiction over important elements of the union's activities, including (1) membership data—ensuring accuracy and regular updates, (2) compliance with Fairtrade Standards, (3) timely disbursement of Fairtrade Premium to members and (4) collaboration with other subcommittees to promote transparency and accountability.

Reflections on findings

- In most contexts, the inability to effectively utilize business plans or strategies to guide operations would be considered a hindrance to development. However, if the long-term strategy is for cooperative unions to exist as a facilitator of Fairtrade certification and support services (e.g. NGO projects), **then support efforts should focus on building the basic capacities for ensuring timely and accurate reporting to members and others in the administration of the Fairtrade Premium.** Some form of strategic planning would likely facilitate the consolidation process; this would be a relatively simple process with strong input from the unions and their supporters.
- **All of the cooperative unions possessed a plan for addressing child labour in cocoa production,** suggesting union awareness of the issue's importance. More information is needed on compliance with the policy, specific actions taken by the unions to monitor compliance and the unions' ability to respond to non-compliance.
- **A source of concern is the lack of structures for oversight among most of the cooperative unions**—only in the case of Coop1 did the Control Committee exist. Building effective oversight structures would provide important inputs for cooperative leaders, as well as reduce the potential for mismanagement and small-scale corruption.

4.2.3 Capacity building

Training formed an integral component of the services provided by the cooperative unions to their members. In most cases, external partners, mainly NGOs and government agencies, delivered the training to union leaders or directly to members. Some of the training was given only to delegates of the societies for subsequent feedback/training to their members (train-the-trainer approach). The latter training is often related to management and other technical issues such as calculation of Premiums. Neither the unions nor their affiliated societies keep a record of training provided, trainers or trainees. Table 14 lists training events presented by NGOs, government agencies and LBCs for the cooperative unions and primary societies (based on interviews with key informants and secondary information sources). The major focus of these trainings has been improved production methods; however, other themes covered labour rights, leadership, cooperative management and child labour.

Within the framework of the Cocoa Life project, Coop1, Coop2 and Coop4 were assigned three COCOBOD cocoa extension agents. Each agent had an operational zone within the union. The agents provided trainings on good agricultural practices, postharvest techniques and environmental management. Also within the Cocoa Life

project, the cooperative unions had trained local cocoa facilitators, cooperative union members who were able to provide quick assistance to nearby farmers related to pruning and application of inputs. The number of local cocoa facilitators for each society varied depending on the size of the society, with a minimum of three for each society. It was not clear whether the cooperative unions had a plan to replace the services provided by the agents should the Cocoa Life project cease in 2020. While all the cooperative unions had facilitated trainings on child labour regulations, leaders insisted that more training and sensitization was needed because of reluctance by some members to respect the principles of child labour.

One noticeable difference between the cooperative unions participating in the Cocoa Life project (Coop1, Coop2, Coop4) and the cooperative unions with strong ties to Armajaro Ghana (Coop3) is that most of the training delivered to unions in the Cocoa Life project was offered by NGOs and most were delivered directly to farmers at the primary society level. Conversely, Armajaro's commercial officer offered most training to Coop3 and the trainees were delegates from each primary society. Union leaders highlighted supplementary training considered necessary to improve their management and performance (e.g. record-keeping, cooperative management and group dynamics) (see table 15).

TABLE 14. TRAINING RECEIVED BY COOPERATIVE UNIONS AS OF 2014

Theme of training events	Trainers (one or more partners may have delivered the same training)	Trainees*
Training delivered to Coop1, Coop2, Coop4		
Good agricultural practices; postharvest management, waste management; labour regulations and rights; quality assurance	Cocoa health extension division of the COCOBOD, MOFA, CARE, World Vision, UNDP	Primary society members
Leadership, cooperative management, gender equity	Department of Cooperatives, CARE	Primary society members, cooperative unions' boards of directors
Child labour/child protection	Department of Cooperatives, COCOBOD, CARE	Primary society members
Calculation of Fairtrade Premium	Union manager with backup from Fairtrade consultant	Premium Committee members from each primary society
Training delivered to Coop3		
Good agricultural practices, quality control, environmentally friendly practices, child labour regulations	Commercial officer of Armajaro	President and secretary from each primary society
Leadership; cooperative management	Department of Cooperatives	Cooperative union board of directors

**Data unavailable for reporting of training trainees by gender or age*

TABLE 15. SUPPLEMENTARY TRAINING REQUESTED BY LEADERS OF COOPERATIVES

Union	Training request	Comments
Coop1	None identified	None identified
Coop2	Record-keeping; cooperative management and group dynamics with emphases on instilling the spirit of commitment to members	Cooperative leaders progressed towards meeting the training gaps, contacting the district cooperative director to assist in sensitizing community members to join the cooperatives
Coop3	At union level, additional trainings in internal management and organization	For effective management of the union and the primary society
	At the level of the societies, additional trainings in bookkeeping to enable primary society leaders to track records	Requests relevant because of difficulty in collecting reliable information from leaders of primary societies—mention of assistance requested by the union from a Fairtrade consultant and cooperative management to offer training
Coop4	At both the union and primary society levels, additional trainings in financial management and bookkeeping, taking and reporting minutes of meetings, child labour	Although child labour training has been conducted, group leaders insisting on more because some farmers are stubborn and do not want to respect the principles of child labour

Reflections on findings

- The train-the-trainer approach pursued by the Cocoa Life project and Armajaro to build the capacity of cooperative members likely saves resources; however, a key issue is the capacity and willingness of those trained to impart their newly acquired knowledge to neighbouring farmers. In addition to how the trainings were delivered, there is the issue of training quality and subject matter (i.e. whether trainings have addressed the most critical needs of members). Follow-up efforts should seek insights into the effectiveness of the training or the unaddressed needs for training.
- **The lack of information on training delivered by the cooperative unions' partners suggests a weakness in the administrative systems of the unions.** Who received training, on what topics and under what conditions provides important information for planning the unions' services to their members (and for negotiating with external partners on training needed and for whom).
- Cooperative leaders identified important areas where they would like to strengthen their skills and knowledge. Additional interactions with cooperative leaders may lead to deeper insights into the needs and prioritization of these needs. Such an approach could involve a structured discussion between cooperative leaders and external advisers on a range of important activities needed for administration of the cooperatives, the current capacity of the cooperatives to carry out these activities and the related needs for future capacity building.

Summary: human capital held by cooperative unions

Table 16 presents an overall assessment of the status of human capital of cooperative unions and the justification of the assessment.

TABLE 16. SUMMARY: HUMAN CAPITAL ENDOWMENT (COOPERATIVE UNIONS)

Indicator	General assessment of current situation*	Justification for assessment
Member participation in decision making	Yellow	All four cooperatives have representatives from the primary societies in the general assembly.
Female representation on board of directors, general assembly	Yellow	All cooperatives have at least one female on the board of directors, but few hold strategic positions.
Mechanism for sharing information with primary societies	Red	None of the unions have a clear procedure for sharing information; all had secretaries and maintained books of minutes, but their capacity to collect and assemble information was weak; no clear information-sharing mechanism identified.
Mechanisms for planning and assessing effectiveness of cooperatives	Yellow	All cooperatives have a Fairtrade Premium Committee and decisions about how to spend Fairtrade Premiums are made in collaboration with the general assembly; one cooperative has a Control Committee (for oversight of cooperative governance); none had a monitoring plan.
Updated strategic and/or business plan that guides decision making	Yellow	None of the four unions have a business plan—instead they use their Fairtrade development plans to guide their activities. However, the Fairtrade development plan focuses largely on the implementation of projects funded by the Fairtrade Premium rather than on wider strategic issues facing the unions. More interaction with the unions is needed to identify their development goals and whether a full-fledged business plan is needed.
Possession of child labour, youth and environmental policies and others	Yellow	Three out of the four cooperatives have a child labour policy, environmental plan and an income diversification strategy; however, it was not possible to assess application of these policies (missing information).

Indicator	General assessment of current situation*	Justification for assessment
Training facilitated by the cooperative unions	Red	All four cooperatives have received some training, but (1) there are limited records of the trainers, trainees, type of trainings, (2) some training focuses only on the leaders of primary societies—issues of inclusion and effectiveness come into play here, (3) the coverage of technical assistance appears to be thin and (4) training has focused on a wide variety of issues, with relatively limited attention given to the management and administration of cooperatives (also reflected by cooperatives when asked to identify their own desires for training).

**Green = overall clear positive situation for cooperative development; Yellow = overall situation provides reasons to be optimistic, but a few critical issues need to be addressed; Red = overall situation is not favourable to the development of viable cooperatives*

4.3 Physical capital—Fairtrade cooperative unions

None of the cooperative unions own a building (office space) or a warehouse. Each rents a small room for office space and occasionally rents halls or used churches or school buildings for their general assembly meetings. The fact that they do not own warehouses makes sense—the cooperative unions are not LBCs and thus do not engage in the buying or selling of cocoa. The cooperative unions do own various office-related equipment, such as computers and desks (table 17).

The unions have been able to acquire a few tools and equipment for cocoa production, but these are mostly accounted for at the primary society level. The equipment

was offered by the Cocoa Life project to those participating in such schemes. The equipment usually included two motorized spraying machines, a few knapsack sprayers and one or two pieces of modern pruning equipment per primary society. Except for major investments such as motorbikes and vehicles, the union leaders were generally not able to assess the value of their assets. Some of the unions acquired the assets as donations offered by the Cocoa Life project to participating unions. Coop3 received loans from its Fairtrade-certified LBC for the purchase of equipment and physical assets. The Coop3 union repaid all the loans generated with funds from its Fairtrade Premium. In fact, except for computers and computer accessories, which were acquired in the early stages of the cooperatives, all other tools have been bought using Fairtrade Premiums.

TABLE 17. PHYSICAL ASSETS OWNED BY COOPERATIVE UNIONS AS OF 2014

Union	Type of good	Number	Year of procurement	Value (USD)*	Source of funding
Coop1	4x4 pickup (used)	1	2014	14 516	Fairtrade Premium
	Computer	1	2013	Unknown	Donation, Cocoa Life project
	Office furniture		2013	Unknown	Fairtrade Premium
Coop2	Computer	1	2013	Unknown	Donation, Cocoa Life project
	Furniture (plastic chairs)	55	2013	Unknown	Fairtrade Premium
	Office table	1	2013	Unknown	Fairtrade Premium
	Fan	3	2013	Unknown	Fairtrade Premium
	Business calculator	1	2013	Unknown	Fairtrade Premium
Coop3	Computer	1	2013		Fairtrade Premium
	Fridge	1	2013		Fairtrade Premium
	Motorbike	2	2013	1258	Fairtrade Premium
	Office equipment		2012		Fairtrade Premium

Union	Type of good	Number	Year of procurement	Value (USD)*	Source of funding
Coop4	Fridge	1	2014	110	Fairtrade Premium
	Laptop	2	2014	1290	Fairtrade Premium
	Desktop	1	2011		Donation, Cocoa Life project
	Printer	1	2011		Donation, Cocoa Life project
	Office cabinet	1	2014	263	Fairtrade Premium
	Office table	1	Unknown		Fairtrade Premium
	Office chair	1	Unknown	Unknown	Fairtrade Premium
	Plastic chair	6	2014	11	Fairtrade Premium

* USD 1 = GHS 3.1

Reflections on findings

- Overall need for physical capital is relatively low given that the sampled cooperative unions are not engaged in the gathering, processing and marketing of cocoa. Nonetheless, the findings here suggest that the current level of endowments is below what it should be. **The unions lack the basic infrastructure for maintaining a business** (stable location, signage, reliable access to meeting facilities).
- Similarly, the need for tools and equipment is relatively low, given that the cooperatives exist essentially (at least for now) to carry out an administrative role (e.g. facilitating Fairtrade certification, facilitating access to training and inputs). Basic levels of tools and equipment were reported for this task. However, the current endowment may prove to be inadequate in the future, especially if the unions expand their service offer to members (e.g. providing technical assistance or assistance with marketing, such as help with weighing cocoa).
- The findings also highlight the important role played by the Fairtrade Premium in building physical assets in the early stage of cooperative development. With few exceptions, the purchase of physical assets was made possible by access to the Fairtrade Premium. Donations accounted for a relatively minor source of support for building physical capital.

Summary: physical capital held by cooperative unions

Table 18 presents an assessment of the status of physical capital of cooperative unions and the justification of the assessment.

TABLE 18. SUMMARY: PHYSICAL CAPITAL ENDOWMENT (COOPERATIVE UNIONS)

Indicator	General assessment of current situation*	Justification of assessment
Infrastructure owned or rented (buildings, warehouses)	Yellow	The sampled cooperative unions require limited physical capital since they are not engaged in the purchase and processing of cocoa. Cooperatives have offices (rented) for administrative activities. Future investments in warehouses (processing facilities) would be needed should the unions be allowed to operate as LBCs.
Equipment for business administration and provision of member services	Yellow	The sampled cooperative unions have basic office equipment. Since the cooperatives were only engaged in administrative functions, an overall low endowment of equipment and tools appears reasonable.

*Green = overall clear positive situation for cooperative development; Yellow = overall situation provides reasons to be optimistic, but a few critical issues need to be addressed; Red = overall situation is not favourable to the development of viable cooperatives

4.4 Financial capital—Fairtrade cooperative unions

None of the cooperative unions report having borrowed money from a commercial bank since their creation. They do, however, have bank accounts. Only Coop3, which had partnered with Armajaro Ghana Limited, had obtained loans from an LBC and had also provided loans (in the form of inputs for cocoa production) to its members.

Fairtrade Premiums were the most important source of revenue for all of the cooperative unions. Each cooperative union developed its own plan about how to invest the Premium (See appendix 1 for details on how the Premium was employed). As mentioned earlier, the Premium Committee drafts a plan on how to utilize the Premium and submits it to the general assembly for approval. The

Fairtrade Premium has been used for various expenditure types, including (1) payment of bonuses to members, (2) purchase of inputs distributed to members at no cost to the member (only Coop3 to date but others have this in their Fairtrade Development Plan), (3) covering the cooperative union's operating expenses and (4) financing for community development projects (e.g. boreholes, school buildings). The amount attributed to each of these components varies by union (table 19). Generally the amount attributed to community development takes the smallest share. The amount invested directly on members in the form of inputs and bonuses varied from 16 to 80 percent. These amounts change each year and from one union to another. However, in general, the largest use of the Premium was for direct investments by members (inputs and bonuses) (fig 4).

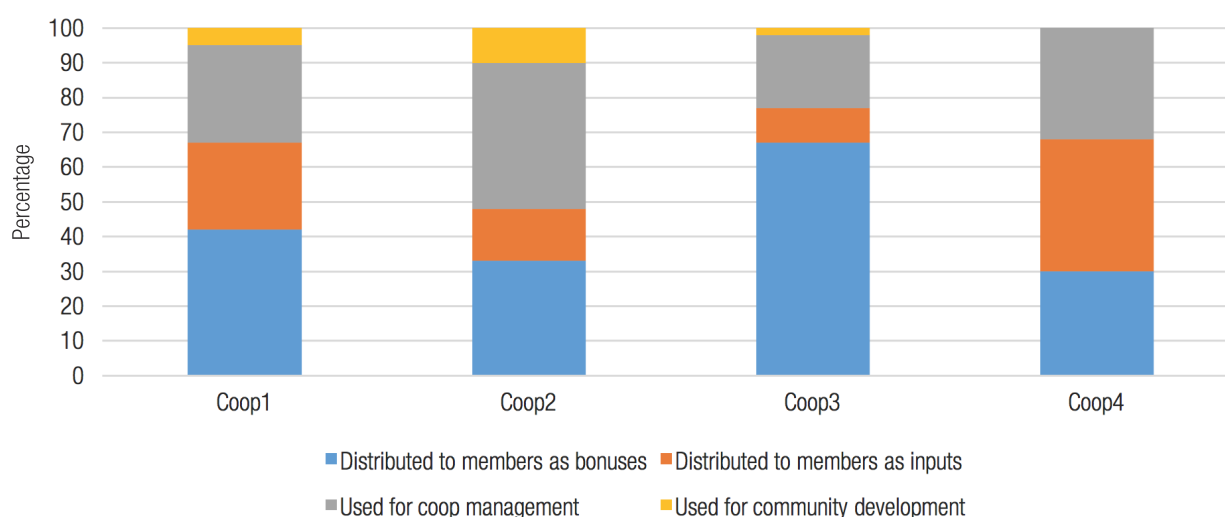
TABLE 19. DISTRIBUTION OF FAIRTRADE PREMIUMS BY COOPERATIVE UNIONS, 2012/2013 AND 2013/2014

Union	Year	Value of Premium received (USD)*	Premium distributed to members as bonuses and inputs (%)	Premium used for expenses related to the cooperative union (%)	Premium used for community development (%)
Coop1	2013/2014	400 000	33—Bonuses 15—Inputs	10—Administration 10—Training on governance 11.3—Purchase of pickup 6—Fairtrade Africa dues, FLOCERT, audit fee 4.4—Input	10—Community development projects
	Total 2013/2014	400 000	48	42	10
	2012/2013	138 000	65—Bonuses 0—Inputs	10—Administration 5—Governance training 5—Fairtrade Africa dues, FLOCERT audit fee	5—Community development projects
	Total 2012/2013	130 000	65	20	15
Coop2	2013/2014	160 000	42—Bonus 25—Inputs	10—Training 18—Administration	5—Community development projects
	Total 2013/2014	160 000	67	28	
	2012/2013	48 000	55—Bonus 20—Inputs	10—Training 10—Administration	
	Total 2012/2013	48 000	75	20	
Coop3	2013/2014	130 000	67—Bonus 10—Inputs	4—Training 5—Loan service 7.5—Certification fee 4.5—Administration	2—Community development projects
	Total 2013/2014	130 000	77	21	2
	2012/2013	27 000	16—Bonus 0—Inputs	12—Training 0—Loan servicing 24.1—Certification fee 48—Administration	0
	Total 2012/2013	27 000	16	84	0

Union	Year	Value of Premium received (USD)*	Premium distributed to members as bonuses and inputs (%)	Premium used for expenses related to the cooperative union (%)	Premium used for community development (%)
Coop4	2013/2014	160 000	30–Bonus 38–Inputs	5 –Governance and training 0.03–Bank charges 6.9–Certification fee 15–Administration 2.8–Manager's salary 3.1–Annual meeting	0
	Total 2013/2014	160 000	68	32	0

* USD 1 = GHS 3.1

FIGURE 4. DISTRIBUTION OF FAIRTRADE PREMIUM BY COOPERATIVE UNIONS 2013/2014



Sources of union income other than the Fairtrade Premium are entry fees, monthly dues and share capital (table 20). These amounts vary from one union to another and are paid by each member to the primary societies; each primary society contributes to the unions. Almost all the primary

societies have paid their shares to the unions and only a few are yet to complete their monthly dues. These resources are used to run the unions. Lack of appropriate data limited insights into the relative contribution of each source of funds to the total capital of each.

TABLE 20. SOURCES OF FUNDING FOR COOPERATIVE UNIONS OTHER THAN PREMIUMS

Union	Source of income	Amount per affiliated member society (USD)*	Amount per year (USD)*	Comment
Coop1	Entrance fee	3.2	132	New societies expected to pay USD 9.6 as of April 2014
	Monthly dues	3.2	1626	Paid monthly by each society
	Shares	6.5	265	Paid once as a member society
Coop2	Entrance fee	16.1	581	Paid once by each society upon entry
	Monthly dues	3.2	1394	Paid monthly by each society
	Shares	32.3	1161	Paid once as a member society
Coop3	Entrance fee	1.6	40	New societies expected to pay USD 9.6 as of April 2014
	Monthly dues	4.0 (on average)	97	USD 1.6–6.5 per primary society depending on the number of individual members
	Shares	6.5	161	Paid once as a member society

* USD 1 = GHS 3.1

Reflections on findings

- **The Fairtrade Premium provided the major source of funding for the cooperative unions.** Given the unique context in Ghana, there are few alternative income sources for the cooperative unions. The implication of this on their long-term viability is unclear. If these cooperatives maintain a limited role in providing services for their members (and thus keep their costs low), then they may be able to carry out their services with the Premium as their only funding source. However, if the cooperative unions were to try to provide other types of services, then alternative funding sources would be needed.
- The Fairtrade Premium had been used for various expenditure types, including (1) payment of bonuses to members, (2) purchase of inputs distributed to members at no cost to the member, (3) covering the cooperative union's operating expenses and (4) financing for community development projects. Generally the amount attributed to community development takes the smallest share, which is understandable given the early stage of development of the sampled cooperative unions. The amount invested directly on members in the form of inputs and bonuses varied from 16 to 80 percent. These amounts change from year to year and from one union to another. However, in general, the largest use of the Premium was direct investments on members (inputs and bonuses).

Summary: financial capital held by cooperative unions

Table 21 presents an overall assessment of the status of the financial capital of cooperative unions and the justification of the assessment.

TABLE 21. SUMMARY: FINANCIAL CAPITAL ENDOWMENT (COOPERATIVE UNIONS)

Indicator	General assessment of current situation*	Justification of assessment
Credit received from banks and financial services offered to members by cooperatives	Red	None of the unions have received loans (or other types of financial services) from commercial banks. Only one union has been able to provide small amounts of credit to members (with assistance of the LBC).
Funds invested in community development	Yellow	All except one cooperative union dedicate part of their Premium to community development; however, the overall amount invested (as percentage of Fairtrade Premium received) is relatively small, which is understandable given the early development stage of the cooperative unions.
Funds distributed to members as bonus	Green	All unions that have received the Premium gave bonuses to members and all had reasons for allocating specific percentages as bonuses.
Activities carried out in the chain	Not applicable indicator	None of the cooperatives reported any major activity carried along the chain except coordination of members. Given the overall cocoa business environment in Ghana, limited options exist for cooperative unions to engage in additional cocoa-related activities. Future activities may include the buying and processing of products unrelated to cocoa.
Income from member and primary society dues, Fairtrade Premium and other sources	Yellow	All unions reported income from membership dues and other sources but there was no evidence of record-keeping on member contributions and other fees paid to the cooperative union; the contribution of these income streams to overall operational costs remains unknown.

*Green = overall clear positive situation for cooperative development; Yellow = overall situation provides reasons to be optimistic, but a few critical issues need to be addressed; Red = overall situation is not favourable to the development of viable cooperatives

5

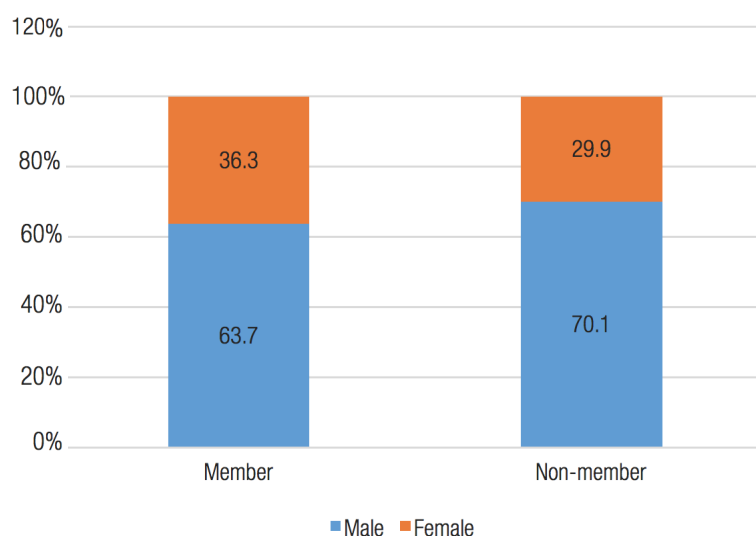
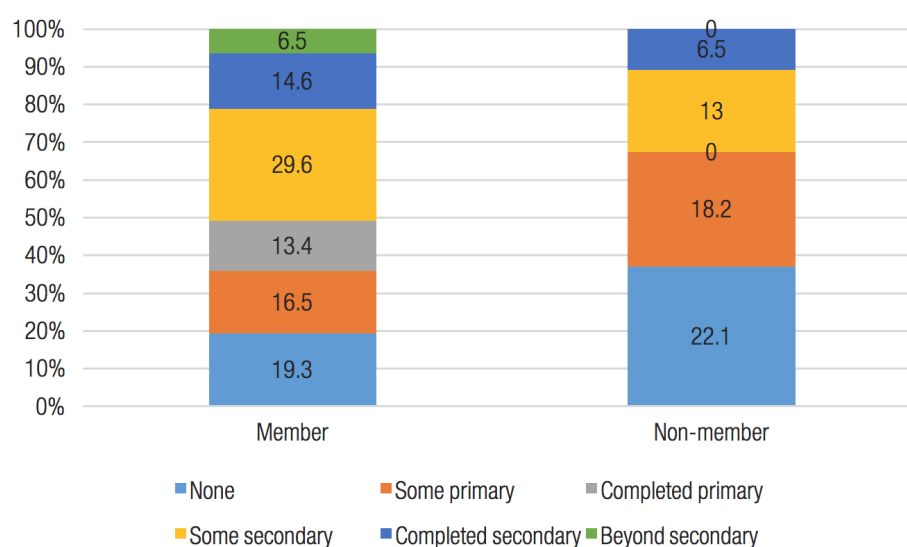
HOUSEHOLD-LEVEL ASSESSMENT

The sample consisted of 322 cooperative members, about 64 percent of whom were male and 36 percent, female (table 22). Women formed a greater percentage of member households than in non-member households (fig 5). Most members were relatively new to cooperative engagement, with an average membership of three years. The average age of cooperative members was 51 years. Members tended to have deep roots in the communities where they currently live, with an average of 36 years in the community

Members were relatively older than their non-member counterparts and tended to have lived longer in their village (average age of non-members was 44 years; average number years in village, 27 years). Significant differences also existed in level of education between cooperative members and non-members (fig 6). Overall, members were more likely to have been enrolled in school and gone to school longer than non-members.

TABLE 22. BASIC CHARACTERISTICS OF MEMBERS AND NON-MEMBERS

Characteristic	Statistic	Members	Non-members	Total	Test statistic
Number years of cocoa cooperative membership	Mean	3	NA	3	
	Std Dev	2	NA	2	
	N	321	77	321	
Number years living in village	Mean	36	27	34	t = 3578 p = 0.00
	Std Dev	20	20	13	
	N	322	77	399	
Age of respondent	Mean	51	44	50	t = 3901 p = 0.00
	Std Dev		13	13	
	Valid N	322	77	399	

FIGURE 5. PERCENTAGE OF MEN AND WOMEN RESPONDENTS**FIGURE 6.** PERCENTAGE OF MEMBERS AND NON-MEMBERS WITH DIFFERENT LEVELS OF EDUCATION

5.1 Natural capital—farming households

5.1.1 Landholdings and land use

Total acreage

Members reported having an average of about 11 acres (4.4 ha) of land.⁸ There was considerable variation among the respondents, from a minimum of one acre and a maximum 98 acres. Ten percent of respondents had less

than two acres of land. There were no significant differences between members and non-members with regards to total average landholdings (table 23).

⁸ Farmer-reported estimates of farm size in Ghana are likely to be inaccurate. A study that compared reported versus measured farm sizes for a sample of cocoa plots in Ghana showed that farmers overestimated their farm sizes by an average 41 percent (Hainmuller, Hiscox and Tampe).

There were significant differences among the unions on total average farm size. Respondents from Coop4 had the smallest total average farm size (5.7 acres, 3.2 ha), while those from Coop3 had the highest (14.3 acres, 5.7 ha).

For female respondents, average total farm size (8.6 acres) was significantly smaller than that of men (12 acres, 4.8 ha) (table 24).

TABLE 23. FARM SIZE (ACRES) FOR MEMBERS AND NON-MEMBERS

Variable	Statistic	Fairtrade membership		Test statistic
		Member	Non-member	
Total farm size in acres	Mean	11.0	9.4	t = 1.036 p = 0.301
	Std Dev	10.3	10.2	
	Valid N	300	52	

TABLE 24. COMPARISON OF FARM SIZE BY GENDER FOR MEMBERS AND NON-MEMBERS

Variable	Statistic	Gender		All members	Test statistic
		Male	Female		
Total farm size in acres	Mean	12.0	8.6	10.8	t = 2.983 p = 0.003
	Std Dev	11.1	8.3	10.3	
	Valid N	227	125	352	

Number plots and average plot size

Members had an average of three agricultural plots with an average size of 4.2 acres (1.7 ha) per plot (table 25). There were no significant difference between members and non-members across these two indicators. However,

among members of different cooperative unions, there were significant differences in the number and size of plots: members of Coop2 and Coop4 tended to have smaller plot sizes than the other two cooperatives (table 26).

TABLE 25. NUMBER OF PLOTS BY HOUSEHOLD (MEMBERS AND NON-MEMBERS)

Variable	Statistic	Member	Non-member	Test statistic
Average plot size (acres)	Mean	4.15	4.25	t = 0.185 p = 0.853
	Minimum	0.25	0.14	
	Maximum	20.00	20.00	
	Std Dev	3.41	4.14	
Number of plots	Mean	3	3	t = 0.732 p = 0.465
	Minimum	1	1	
	Maximum	8	8	
	Std Dev	1	2	

TABLE 26. VARIATION IN PLOT SIZE (ACRES) ACROSS COCOA COOPERATIVES

Variable	Statistic	Cooperative				Test statistic
		Coop1	Coop2	Coop3	Coop4	
Plot size in acres (members)	Mean	5.07	2.78	5.21	2.76	F = 12.271 p = 0.00
	Minimum	0.25	0.14	0.50	0.33	
	Maximum	20.00	8.00	20.00	10.00	
	Std Dev	3.65	1.97	4.40	2.08	
Number of plots (members)	Mean	3	4	3	2	F = 9.028 p = 0.00
	Minimum	1	1	1	1	
	Maximum	8	8	6	6	
	Std Dev	1	1	1	1	

Plot use

The following types of plot use were assessed: mainly cocoa trees, cocoa mixed with fruit trees, cocoa mixed with food crops, food crops only, palms and other types of land use. There was no statistically significant difference in plot coverage between members and non-members, but differences between plot sizes among the different cooperative unions were evident. Additional data collection is necessary to explain why differences exist among the unions. Data showed that both members and non-members have most of their plots covered in cocoa: less

than 20 percent of the sampled plots were not engaged in cocoa production. Households allocated about 31 percent of their plots for cocoa production only and 43 percent of plots were used for cocoa mixed with other food crops (fig 7). About 17 percent of the plots were planted with food crops only and about six percent were planted with cocoa mixed with fruit trees. No difference was observed between men and women with regards to proportion of land used for different food crops (table 27).

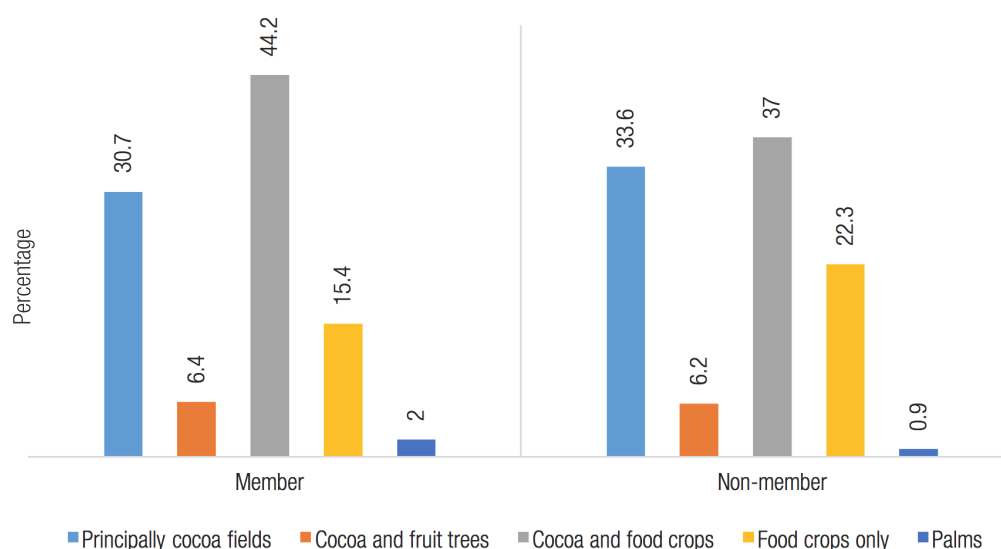
FIGURE 7. PERCENTAGE OF MEMBERS AND NON-MEMBERS WITH DIFFERENT PLOT COVERAGE

TABLE 27. CROPS GROWN ON MEMBERS' PLOTS, BY GENDER

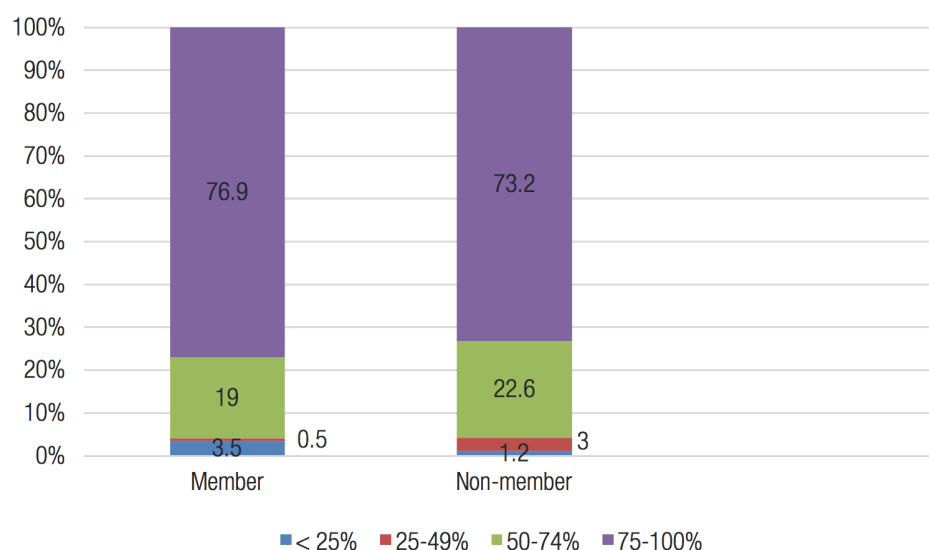
Gender	Crops grown	Coop1 N (%)	Coop3 N (%)	Coop3 N (%)	Coop4 N (%)	Total N (%)
Male	Principally cocoa	91 (33.5)	36 (30.5)	21 (23.6)	39 (29.8)	187 (30.7)
	Cocoa and fruit trees	33 (12.1)	2 (1.7)	4 (4.5)	5 (3.8)	44 (7.2)
	Cocoa and food crops	105 (38.6)	60 (50.8)	37 (41.6)	66 (50.4)	268 (43.9)
	Food crops only	36 (13.2)	17 (14.4)	24 (27.0)	15 (11.5)	92 (15.1)
	Palms	5 (1.8)	2 (1.7)	2 (2.2)	5 (3.8)	14 (2.3)
	Others	2 (0.7)	1 (0.8)	1 (1.1)	1 (0.8)	5 (0.8)
	Total	272 (100.0)	118 (100.0)	89 (100.0)	131 (100.0)	610 (100.0)
Female	Principally cocoa	38 (24.8)	33 (47.1)	12 (30.8)	12 (21.1)	95 (29.8)
	Cocoa and fruit trees	13 (8.5)	0 (0.0)	0 (0.0)	0 (0.0)	13 (4.1)
	Cocoa and food crops	66 (43.1)	23 (32.9)	17 (43.6)	42 (73.7)	148 (46.4)
	Food crops only	30 (19.6)	13 (18.6)	7 (17.9)	2 (3.5)	52 (16.3)
	Palms	3 (2.0)	0 (0.0)	0 (0.0)	1 (1.8)	4 (1.3)
	Others	3 (2.0)	1 (1.4)	3 (7.7)	0 (0.0)	7 (2.2)
	Total	153 (100.0)	70 (100.0)	39 (100.0)	57 (100.0)	319 (100.0)

Proportion of land dedicated to cocoa

Respondents reported the proportion of each of their plots on which both cocoa and other crops are grown that is actually covered by cocoa trees (fig 8). Among members, about 77 percent of plots were covered mainly by cocoa (estimated range 75 to 100 percent). Less than four percent of members' plots had cocoa that covered less

than 25 percent of the surface. Comparison between male and female respondents yielded no significant difference. Similarly, when cooperative and non-cooperative members were compared, there was no significant difference in the reported proportion of plot coverage dedicated to cocoa.

FIGURE 8. PERCENTAGE OF PLOTS WITH VARYING DEGREES OF COCOA COVERAGE, FOR MEMBERS AND NON-MEMBERS



Form of plot acquisition

Of the 1123 plots that were reported by respondents, about 58 percent were acquired through inheritance, while other forms of land acquisition included outright purchase, rental and sharecropping (fig 9). No major differences appear between cooperative members and non-members as

to how agricultural land was acquired. More of the plots owned by female cooperative members (72 percent) were inherited than those owned by men (52 percent) (table 28). More of the land reported by men (13 percent) was purchased than that of women (eight percent)

FIGURE 9. FORM OF PLOT ACQUISITION BY MEMBERS AND NON-MEMBERS

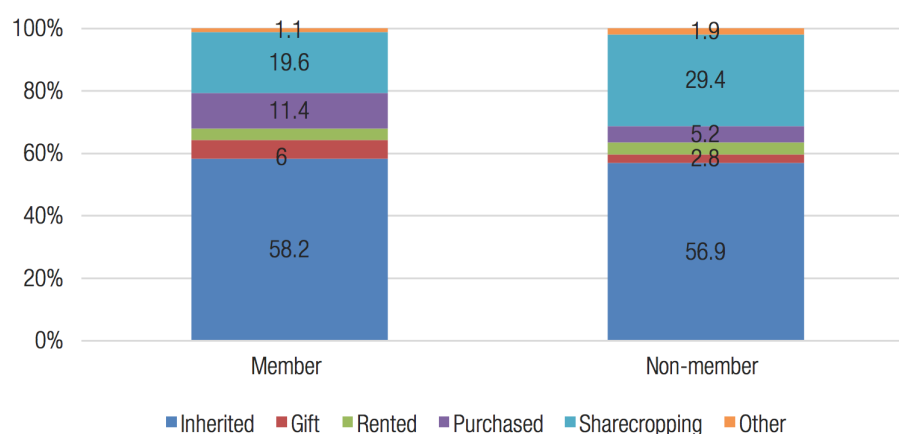


TABLE 28. FORM OF PLOT ACQUISITION FOR MEMBERS, BY COOPERATIVE AND GENDER

Gender	Mode of acquisition	Coop1	Coop2	Coop3	Coop4	Total
	Number of plots (%)					
Male	Inherited	138 (50.7)	81 (68.6)	42 (47.2)	56 (42.4)	317 (51.9)
	Gift	21 (7.7)	8 (6.8)	3 (3.4)	2 (1.5)	34 (5.6)
	Rented	6 (2.2)	1 (0.8)	1 (1.1)	23 (17.4)	31 (5.1)
	Purchased	49 (18.0)	6 (5.1)	13 (14.6)	10 (7.6)	78 (12.8)
	Sharecropping	55 (20.2)	21 (17.8)	26 (29.2)	41 (31.1)	143 (23.4)
	Other	3 (1.1)	1 (0.8)	4 (4.5)	0 (0.0)	8 (1.3)
	Total	272 (100.0)	118 (100.0)	89 (100.0)	132 (100.0)	611 (100.0)
Female	Inherited	108 (70.6)	53 (75.7)	24 (61.5)	45 (78.9)	230 (72.1)
	Gift	10 (6.5)	2 (2.9)	8 (20.5)	0 (0.0)	20 (6.3)
	Rented	2 (1.3)	0 (0.0)	0 (0.0)	0 (0.0)	2 (0.6)
	Purchased	19 (12.4)	3 (4.3)	0 (0.0)	2 (3.5)	24 (7.5)
	Sharecropping	14 (9.2)	12 (17.1)	5 (12.8)	10 (17.5)	41 (12.9)
	Other	0 (0.0)	0 (0.0)	2 (5.1)	0 (0.0)	2 (0.6)
	Total	153 (100.0)	70 (100.0)	39 (100.0)	57 (100.00)	319 (100.0)

5.1.2 Cocoa trees and cocoa productivity

Insights into cocoa productive capacity were obtained through data collection on five indicators: perceptions of soil fertility; age of cocoa trees; pruning of cocoa trees; replanting of cocoa trees and variety of cocoa trees grown. A reference period of five years from the time the questionnaire was implemented (2014) was applied. The results follow.

- Perception of soil fertility.** In Ghana the problem of depleted soils from cocoa production and limited soil fertility replenishment is well-known. Farmers' knowledge of soil fertility can provide a reliable indicator of soil fertility (Karlton, Lemenih, Tolera 2013). Most of the soils on cocoa plots were perceived by cooperative members to have either good or very good fertility status (table 29). However, only 44 percent of sampled households (members) reported using fertilizer in the same period, with a yearly expenditure of merely USD 32.⁹ Future monitoring in the context of this baseline should consider precise indicators of soil fertility (e.g. soil colour, indicator plants, yields) to provide a more nuanced understanding of farmers' perceptions.
- Age of cocoa trees.** Some 36 percent of member plots contained cocoa trees that were estimated to be less than 10 years old on average¹⁰ (table 30), while about 11 percent were more than 30 years old. Comparing across the cooperative unions, cocoa plots in Coop4 tended to be newer than in the other three unions, while respondents from Coop3 reported the highest number of plots that were more than 30 years old. Non-members had more cocoa plots less than 10 years old than did members (fig 10). There are various possible reasons for the difference; for example, non-members in some communities may have had access to no-cost or subsidized cocoa seedlings that were unavailable to members
- Pruning of cocoa trees.** Answers related to pruning were provided for 750 plots reported by cooperative members and 897 plots for both members and non-members. Respondents said they practiced pruning at least once on 94.3 percent of the 750 cocoa plots

and there were no noticeable differences between the number of plots reported by males (94.0 percent) and females (94.9 percent). Non-members reported having practiced pruning on a fewer number of plots (88.2 percent) than had members (95.7 percent), perhaps because members may have been schooled in agricultural practices in the cooperatives.

- Replanting of cocoa trees.** Retaining cocoa trees beyond their economic productive life is considered to be one of the largest contributors to diminishing cocoa yields; the Ghanaian government is subsidizing new cocoa tree replanting to increase national production to about 1.2 tonnes a year. In this study, replanting was evaluated by asking respondents whether they had replaced some cocoa trees within their cocoa plots in the past five years. Out of the 750 cocoa plots of cooperative members, 66.5 percent had done some replanting and there were no major differences between the cocoa plots of male respondents (65.9 percent) and female respondents (66.8 percent) or between member (67.1 percent) and non-member respondents (65.4 percent).
- Variety of cocoa trees grown.** Respondents were asked to rank the variety of cocoa that they planted on each of their cocoa plots by order of importance (table 31). Of the 1217 times that a variety was mentioned, 50.1 percent were Amazon, 38.2 percent hybrid and 11.7 percent Tetteh Quarshi. According to the Cocoa Research Institute of Ghana, when cocoa was first introduced in the country, Tetteh Quarshi and Amazon were the varieties commonly planted and are thus considered as local varieties. Of the 897 times that a variety was ranked, local varieties were ranked first in about 61 percent of the plots in comparison with hybrids (39 percent).¹¹

9 Overall, fertilizer usage in cocoa in Ghana is low, in some cases as low as 25 percent usage rates have been reported (Ruf, 2011; Nunoo et al 2014). Estimates of fertilizer use for any given year will fluctuate based on cocoa prices and COCOBOD programs to distribute fertilizer to growers at no cost.

10 The old age of cocoa trees has been highlighted as one of the major causes of low yields. No optimum producing age of a cocoa tree is reported in the literature. The economic life of a cocoa tree is generally reported to be from 10 to 40 years. Yields actually start to decline at 15 to 25 years yet other studies show that some cocoa varieties can yield after 50 years (Mahrizal et al 2013).

11 From the time that cocoa was first introduced to Ghana until the 1950s, the Amelonado and Trinitario varieties of cocoa (commonly called Tetteh Quarshie) were the only cocoa varieties available to farmers. These varieties take six to eight years to bear fruit and are susceptible to cocoa swollen shoot virus. The Mixed Amazon varieties, which arrived from Peru in the 1950s, showed greater precocity and vigor in response to disease and pest attacks. They also produced pods twice a year, as opposed to once. During the sixties and seventies (1966–1970), research at the West African Cocoa Research Institute (WACRI) led to the development of the original Series II hybrids (a cross of Upper Amazon, Amelonado and local Trinitario varieties) and in the following decades (1971–1985) modified Series II hybrids (Upper Amazon and Amelonado cross). The hybrids show greater disease and pest resistance and are also able to bear pods two to three years after planting. The high-yielding hybrid varieties are also comparatively tolerant to low/no shade conditions, thereby reducing shade requirements on cocoa farms. Farmers who adopted hybrid trees and lower shade levels likely did so in response to extension campaigns, which also promoted the use of fertilizers and pesticides. For more information, see Asare (2013).

TABLE 29. COOPERATIVE MEMBERS' PERCEPTIONS OF SOIL FERTILITY (BY PLOT)

Perception of soil fertility	Coop1 N (%)	Coop2 N (%)	Coop3 N (%)	Coop4 N (%)	Total N (%)
Very good	92 (21.7)	60 (32.4)	56 (44.1)	64 (34.2)	272 (29.5)
Good	227 (53.5)	70 (37.8)	51 (40.2)	93 (49.7)	441 (47.8)
Average	82 (19.3)	45 (24.3)	15 (11.8)	25 (13.4)	167 (18.1)
Bad	21 (5.0)	10 (5.4)	5 (3.9)	5 (2.7)	41 (4.4)
Very bad	2 (0.5)	0 (0.0)	0 (0.0)	0 (0.0)	2 (0.2)
Total	424 (100.0)	185 (100.0)	127 (100.0)	187 (100.0)	923 (100.0)

TABLE 30. COOPERATIVE MEMBERS' ASSESSMENT OF AVERAGE AGE OF COCOA TREES (BY PLOT)

Age of plantation	Coop1 N (%)	Coop2 N (%)	Coop3 N (%)	Coop4 N (%)	Total N (%)
< 10	91 (26.0)	54 (35.5)	13 (15.5)	114 (67.9)	272 (36.1)
10--14	58 (16.6)	27 (17.8)	15 (17.9)	31 (18.5)	131 (17.4)
15–19	76 (21.7)	27 (17.8)	15 (17.9)	14 (8.3)	132 (17.5)
20–24	46 (13.1)	16 (10.5)	13 (15.5)	7 (4.2)	82 (10.9)
25–29	24 (6.9)	16 (10.5)	12 (14.3)	1 (0.6)	53 (7.0)
>30	55 (15.7)	12 (7.9)	16 (19.0)	1 (0.6)	84 (11.1)
Total	350 (100.0)	152 (100.0)	84 (100.0)	168 (100.0)	754 (100.0)

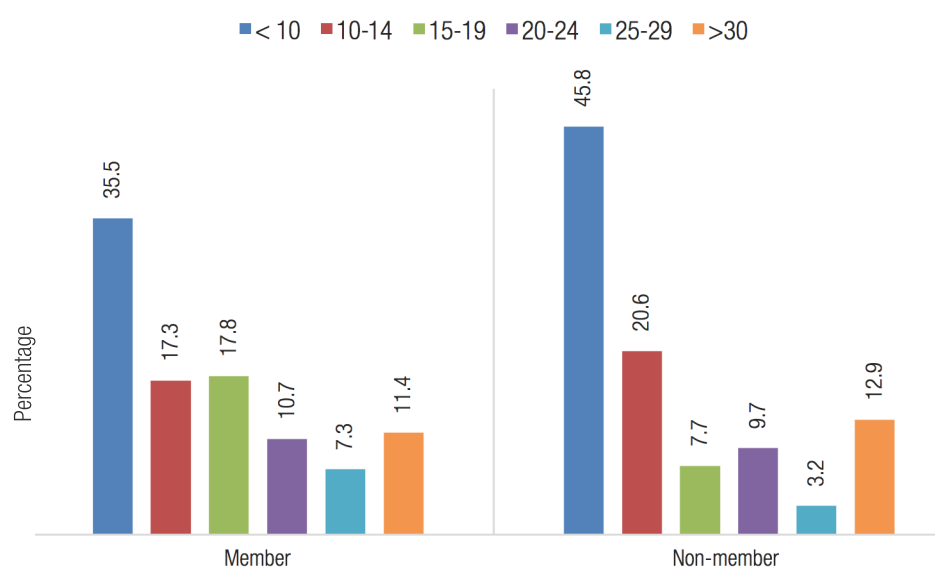
FIGURE 10. REPORTED AVERAGE AGE OF COCOA TREES FOR MEMBERS AND NON-MEMBERS

TABLE 31. REPORTED VARIETY OF COCOA GROWN IN COCOA PLOTS (MEMBERS AND NON-MEMBERS)

Variety	Variety identified as first most common	Variety identified as second most common	Variety identified as third most common	Variety identified as either first, second or third most common
Number of plots (%)				
Tetteh Quarshie	42 (4.7)	84 (27.7)	16 (94.1)	142 (11.7)
Amazon	510 (56.9)	100 (33.3)	0 (0)	610 (50.1)
Hybrid	345 (38.5)	119 (39.3)	1(5.9)	465 (38.2)
Total	897 (100)	303 (100)	17 (100)	1217 (100)

Productivity in cocoa

Productivity estimates for cocoa were calculated based on household reported production from the 2012/2013 season. Households provided data for cocoa production during both the high and low season, which were added to form the total production estimate. Average yield was estimated to be about 0.24 t acre⁻¹ (about 540 kg ha⁻¹) for members and 0.31 t acre⁻¹ for non-members (770 kg ha⁻¹) (table 32). There are many possible reasons for greater productivity by non-members. Several other indicators

have shown differences between members that might have an impact on productivity, including significant differences in age between members and non-members, differences in access to training on good agricultural practices and differences in the age of trees and the use of intercropping practices. Follow-up data collection and analysis will be needed to draw deeper insights into which of these factors, if any, directly correlate to differences in productivity between members and non-members.

TABLE 32. PRODUCTION AND PRODUCTIVITY IN COCOA (2012/2013) FOR MEMBERS AND NON-MEMBERS

	Statistic	Member	Non-member	Test statistic
Production (t)	Mean	2.21	2.16	t = 0.173 p = 0.864
	Std Dev	1.76	1.79	
	Valid N	244	49	
Cocoa yields (t acre ⁻¹)	Mean	0.24	0.31	t = -2.202 p = 0.028
	Std Dev	0.37	0.49	
	Valid N	232	34	

Reflections on findings

- Discussions with cooperative leaders and in focus groups suggest that members are making progress towards the adoption of good agricultural practices in cocoa. For example, there is a considerable chance that a farmer would have replanted cocoa in the recent past or carried out cocoa pruning. However, the baseline does not address the intensity of these actions or their outcomes on cocoa productivity. Traditional cocoa varieties are common, despite their relatively high degree of susceptibility to cocoa-related disease and pests.
- For most of the sample, perceptions of soil fertility were favourable. In general, local perceptions of soil fertility can provide a useful insight into household capacity to produce cocoa. Recent research in the Ashanti region of Ghana (Dawoe et al 2012) has shown that farmers' perceptions of soil fertility (based on observable plant and soil-related characteristics such as soil colour, crop yield, soil water-holding/retention capacity, difficulty to work soil, type and abundance of indicator weeds, colour of leaves and deficiency symptoms observed on crops) can be congruent with lab-based assessments of soil fertility. More in-depth consultation with farmers and local experts would be needed to derive a specific set of observable characteristics that would provide increased precision in soil fertility estimations.
- The baseline shows that many cocoa plots have relatively young trees. This may be the result of major interventions by COCOBOD and cocoa-related projects. For example, to deal with the issue of aging cocoa plantations, COCOBOD announced a National Cocoa Rehabilitation Programme aimed to provide some 20 million cocoa seedlings to farmers for free in 2012 (Laven and Boomsma 2012). Given that farmers are likely to replant individual trees or small sections of their plots in a given year, follow-up monitoring efforts will benefit from a focus on the rate of replanting and the factors that enable/constrain replanting.
- The average cocoa yield among members (540 kg ha⁻¹) was in the range of cocoa yields reported elsewhere in Ghana. For example, Asare (2016) reported a cocoa yield of 450 to 539 kg ha⁻¹, Oppong (2015) 459 kg ha⁻¹ and Glin et al (2015) about 400 kg ha⁻¹. There was a considerable variation in the sample regarding productivity. Households with productivity estimates of about 400 kg ha⁻¹ were likely those that practised little or no pruning, had plots with irregular spacing, carried out limited disease and pest control and had irregular harvesting and shade management (Laven and Boomsma 2012). Implementation of the full package of recommended practices for cocoa in Ghana have potential to yield 1400 kg ha⁻¹.
- Yield improvement may also be limited by the age of farmers. The average age of members was 51 years. This suggests the need to understand the specific needs of relatively older cocoa farmers while at the same time work with cooperative unions, COCOBOD and others to encourage greater youth participation in the cocoa sector.
- Non-member households registered higher cocoa productivity estimates than member households; however, the markedly smaller sample size for this group (compared to the members' sample), combined with the overall imprecision in farm size estimates and production estimates, are likely major factors in explaining the difference. Follow-up action is recommended to design an effective recording system for cocoa production (based on logbooks) and assess the potential inaccuracies in farmer-provided estimates of plot size.

Summary: natural capital—cocoa-farming households

Table 33 presents an overall assessment of the status of natural capital of cocoa-farming household and the justification of the assessment.

TABLE 33. SUMMARY: NATURAL CAPITAL ENDOWMENT (FARMING HOUSEHOLDS)

Indicator	General assessment of current situation*	Justification of assessment
Land ownership and acquisition	Green	Average reported farm size is about 10 acres (4 ha)—relatively large by some standards (e.g. Indonesia and Central America).
Area under production and area dedicated to cocoa	Green	Cocoa is the most important agricultural activity for most of the farming households—in most cases, from 75 to 100 percent of respondents' land was dedicated to cocoa.
Average cocoa plantation age; renovation of cocoa farms; pruning of cocoa trees	Yellow	There is considerable variation in age of cocoa trees plantations, but some encouraging trends (e.g. 37 percent of cocoa plots <10 years). Work remains to promote higher productivity in cocoa, including the encouragement of pruning practices and replanting with new cocoa varieties.
Cocoa production and productivity	Yellow	Average yield was calculated at 540 kg ha ⁻¹ for members. This is roughly in line with other estimates for smallholder cocoa production in Ghana. However, productivity of the Ghana cocoa sector as a whole is low relative to other major producing countries. Increasing cocoa productivity remains a major challenge for members and non-members alike.

*Green = overall clear positive situation for cooperative development; Yellow = overall situation provides reasons to be optimistic, but a few critical issues need to be addressed; Red = overall situation is not favourable to the development of viable cooperative unions

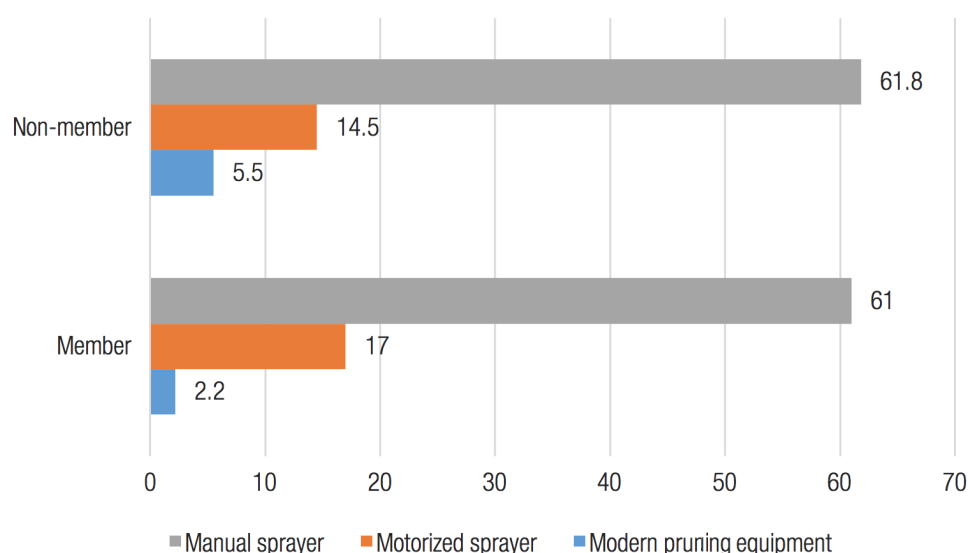
5.2 Physical capital—farming households

5.2.1 Use of farm tools

There were no significant differences between members and non-members in ownership/use of agricultural equipment (fig 11). Roughly 61 percent of the respondents owned or used manual sprayers, implying that about 40 percent of the households reported highly limited access to basic equipment, such as a manual sprayer. Along the same line,

few households reported access to motorized sprayers or pruning equipment (which is easy to use and well-adapted to managing tall cocoa trees). The limited use of motorized spraying and pruning equipment may be related to their relatively higher cost compared to the manual spraying equipment.

FIGURE 11. PERCENTAGE OF MEMBERS AND NON-MEMBERS THAT OWN DIFFERENT TYPES OF EQUIPMENT FOR COCOA PRODUCTION



5.2.2 Use of inputs

Farmers reported whether they used different inputs for cocoa production in 2012/2013 to enhance soil fertility or address pest and disease issues. Results show that 97 percent of members and non-members had used insecticides or pesticides (fig 12). A large proportion of members and non-members had basic small equipment such as machetes, files, diggers and hoes. In 75 percent of cases, respondents used one or more inputs regularly (fig

13). Compared to pesticides and insecticides; a relatively smaller percentage of respondents used fertilizers. Except for labour, there were no significant differences on the use of other inputs between members and non-members. Members reported higher expenditures for inputs related to cocoa production (table 34). This may reflect that members are reinvesting their Fairtrade Premium in cocoa production.

FIGURE 12. PERCENTAGE OF FARMING HOUSEHOLDS USING DIFFERENT TYPES OF INPUTS IN COCOA PRODUCTION IN 2012/2013

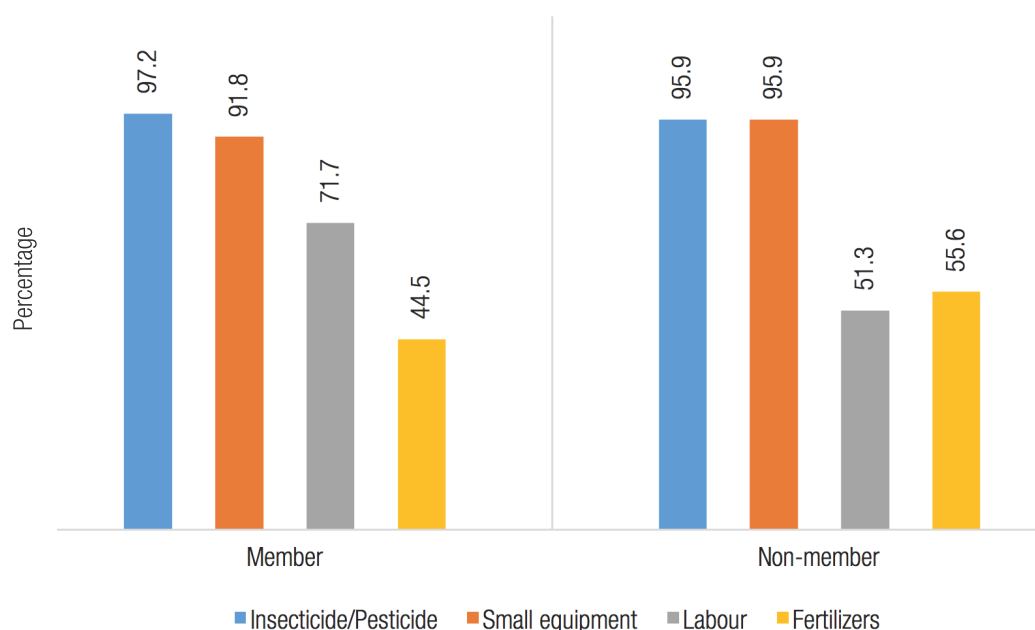


FIGURE 13. FREQUENCY OF USING INSECTICIDES/PESTICIDES AND FERTILIZERS FOR COCOA PRODUCTION IN 2012/2013 (MEMBERS AND NON-MEMBERS)

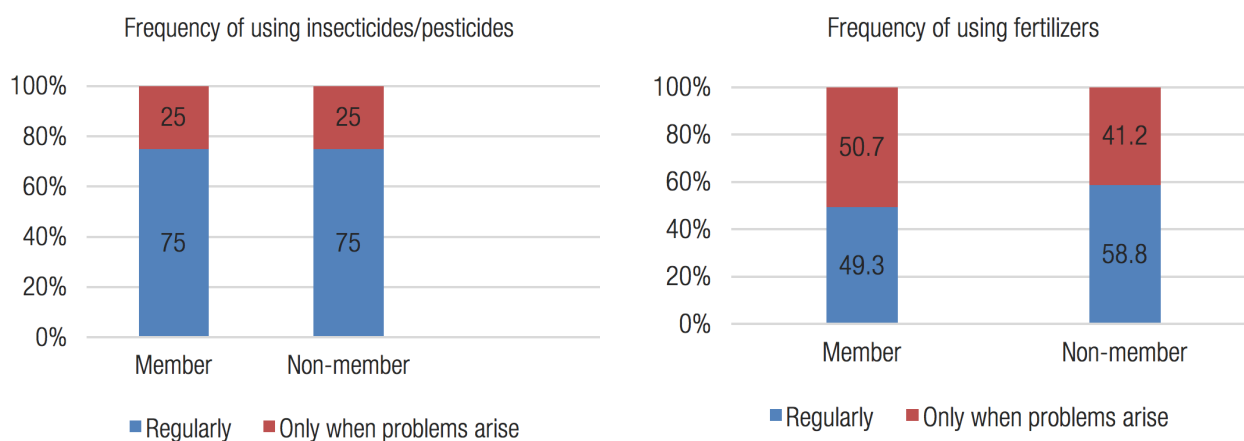


TABLE 34. EXPENDITURES (USD) ON INPUTS FOR COCOA PRODUCTION IN 2012/2013 BY MEMBERS AND NON-MEMBERS

Characteristic	Statistic	Member	Non-member
Insecticides	Mean	58.0	42.1
	Std Dev	110.4	35.5
	Valid N	269	54
Fertilizers	Mean	38.7	30.9
	Std Dev	53.1	42.0
	Valid N	115	33
Labour	Mean	174.5	50.9
	Std Dev	167.8	34.5
	Valid N	28	8

*USD 1 = GHS 3.1

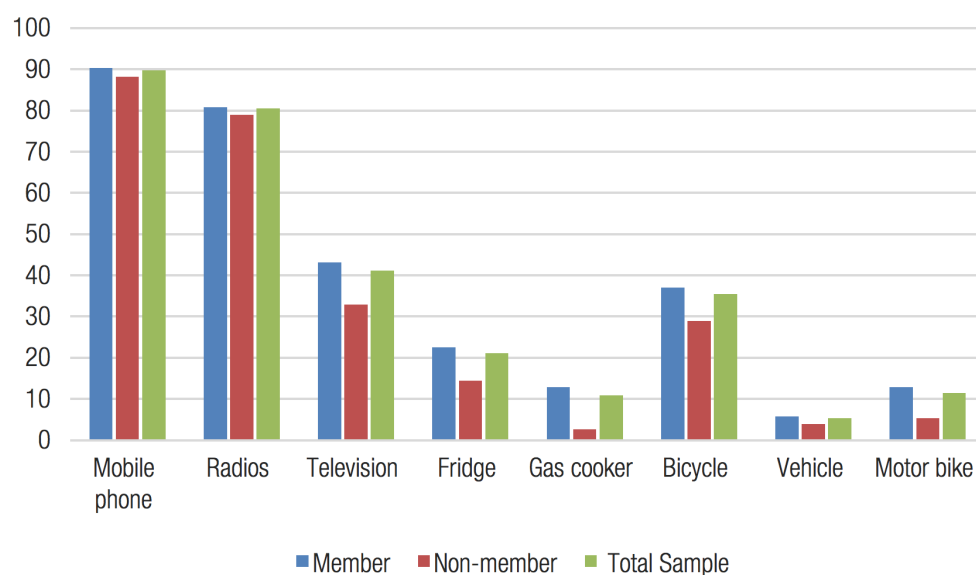
5.2.3 Access to basic goods and infrastructure

Household goods

Close to 90 percent of both cooperative-member and non-member households used or owned mobile phones, while about 80 percent used or owned radios (fig 14). About 45 percent of both types of respondents used or owned televisions. There were no significant differences between

cooperative members and non-members on the type of household equipment owned or used. Other items, such as refrigerators, gas stoves and motorbikes, were relatively rare among the sampled households.

FIGURE 14. PERCENTAGE OF COCOA-FARMING HOUSEHOLDS OWNING GOODS AND EQUIPMENT BY MEMBERS AND NON-MEMBERS IN 2014



Home construction materials

Nearly 90 percent of members' homes are single-unit houses, rather than rooms rented in another home (table 35), and most members' homes have cement floors and aluminium roofing. However, some 96 percent of members did not have a toilet or latrine in or near their homes and

about 61 percent did not have access to electricity. Non-members were more likely to have homes made of earth but were more likely to have some form of latrine at their disposal.

TABLE 35. CONSTRUCTION MATERIALS OF MAIN HOUSEHOLD DWELLING IN 2014 (MEMBERS AND NON-MEMBERS)

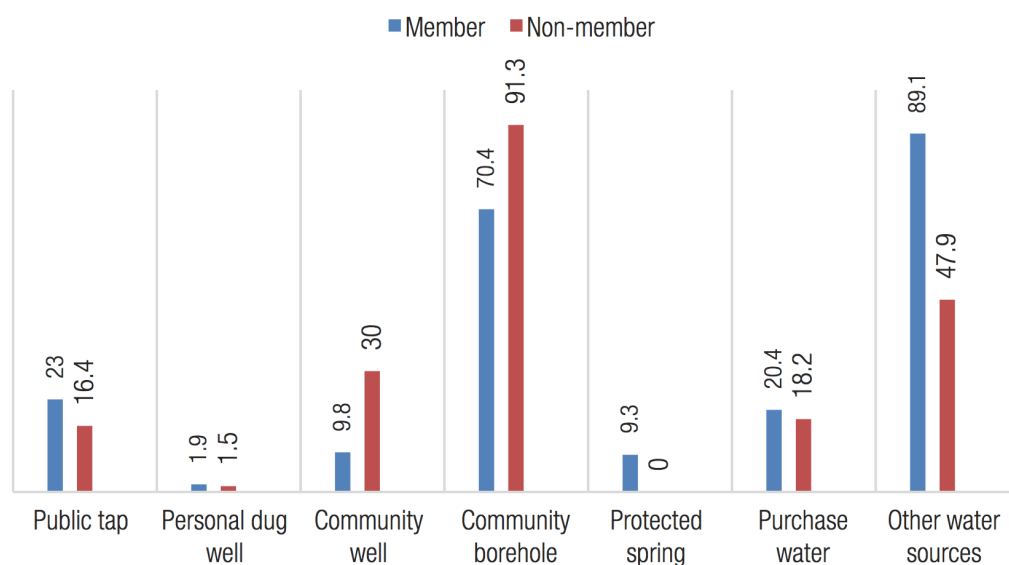
	Member N (%)	Non-member N (%)	Test statistic
Type of building			
Single unit	284 (89.6)	71 (93.4)	$X^2 = 1.03$ p = 0.31
A house with rooms for rent	33 (10.4)	5 (6.6)	
Construction material of the outer walls			
Earth or other local materials	0 (0.0)	40 (52.6)	$X^2 = 116.075$ p = 0.00
Plastered with cement	187 (100.0)	36 (47.4)	
Construction material of the floor			
Earth	41 (12.9)	16 (21.3)	$X^2 = 3.486$ p=0.062
Cement	277 (87.1)	59 (78.7)	
Construction material of the roof			
Aluminium roofing sheet	300 (94.3)	72 (94.7)	$X^2 = 0.018$ p = 0.892
Makeshift/local material	18 (5.7)	4 (5.3)	
Access to toilet			
No toilet	80 (96.4)	31 (46.3)	$X^2 = 59.602$ p = 0.00
Pit toilet (no walls)	0 (0.0)	6 (9.0)	
Closed pit toilet (permanent walls)	0 (0.0)	30 (44.8)	
Indoor water toilet	3 (3.6)	0 (0.0)	
Electricity			
Yes	124 (38.5)	35 (45.5)	$X^2 = 71.528$ p=0.00

Sources of drinking water

The most common source of drinking water for members is a community borehole, used by about 70 percent of members. Approximately, 20 percent of members purchase drinking water (small bags or bottled water). Nevertheless,

there were significant differences between member and non-member households for some of the sources of drinking water, as shown in figure 15.

FIGURE 15. SOURCES OF DRINKING WATER IN 2014 FOR MEMBERS AND NON-MEMBERS, IN PERCENTAGES



Reflection on findings

- In general, members showed **limited access to physical assets** that have major implications for household health, hygiene, safety and overall well-being. Lack of improved sanitation facilities, limited access to electricity and dependence on community boreholes for water access suggest substantial room for improvement. These also represent important indicators for understanding changes in household well-being. The low coverage of improved sanitation in rural Ghana—findings here are in line with other studies—remains a development challenge. For example, one recent study shows that more than 75 percent of households rely on open defecation and communal trench latrines. Knowledge of technological options is very limited and the cost for preferred latrines is considered to be unaffordable (Keraita et al 2013).
- Across various indicators significant differences exist between members and non-members (e.g. access to improved sanitation facilities, construction material for walls). Looking across the differences, however, it is not possible to draw clear conclusions about the implications on well-being. More interaction is needed with local communities to understand possible factors behind the differences (e.g. influence of development projects or government services) and the implications for households.
- The farming households have **access to basic equipment for cocoa production** (e.g. machetes, hoes, files). However, a relatively small percentage of farming households have access to motorized equipment that would save both time and money (savings in hired labour), such as motorized sprayers (17 percent) and motorized cutting equipment (two percent).
- Most farming households used chemical inputs for controlling pests and diseases in cocoa (97 percent)**, with seventy-five percent of these households reporting use on a regular basis. Yearly expenditures on these inputs were about USD 47 in the 2012/2013 growing season. It remains unclear whether the purchases of inputs were sufficient to address the major problems perceived by the large percentage of households regarding pests and diseases in cocoa production—see section 5.1 for discussion on natural capital at the household level. Only 44 percent of sampled households (members) report using fertilizer in the same period, with a yearly expenditure of merely USD 32.

- The baseline finding that regular fertilizer usage is low among cocoa producers and is in line with other studies—in some cases as low as 25 percent usage rates reported (Nunoo et al 2014). Estimates of fertilizer use for any given year will fluctuate based on cocoa prices and COCOBOD programs to distribute fertilizer and farm size.
- A survey conducted in the Ashanti region of Ghana showed that farmers used mostly two types of insecticides, Imidacloprid and Bifenthrin, and the frequency of application was more than recommended by the COCOBOD. The same study showed that while some farmers do not apply insecticides on their farms, others apply as much as 11 applications a year. Most of the insecticides used are in the Class II category under the WHO Hazard classification (Akua et al 2015).

Summary: physical capital held by cocoa farming households

Table 36 presents an overall assessment of the status of the physical capital of cocoa-farming households and the justification of the assessment.

TABLE 36. SUMMARY: PHYSICAL CAPITAL ENDOWMENT (FARMING HOUSEHOLDS)

Indicator	General assessment of current situation*	Justification of assessment
Tools and equipment for cocoa production	Red	More than 60 percent of respondents use manual spraying machines; only about two percent use modern pruning equipment; less than five percent use motorized sprayers.
Access to inputs, perception of access to inputs: sufficient for needs, limited by supply restrictions, limited by insufficient income	Yellow	About 90 percent use insecticides or pesticides, but only about 75 percent use them regularly; only about half use fertilizers and usage is not regular.
Household equipment, access to portable water, electricity, communication and other basic infrastructure	Red	About 90 percent of households use mobile phones. Most (80 percent) do not have/use toilets (threat to public hygiene and health); boreholes are the most common source of drinking water for about 70 percent of respondents.

**Green = overall clear positive situation for cooperative development; Yellow = overall situation provides reasons to be optimistic, but a few critical issues need to be addressed; Red = overall situation is not favourable to the development of viable cooperative unions*

5.3 Financial capital—farming households

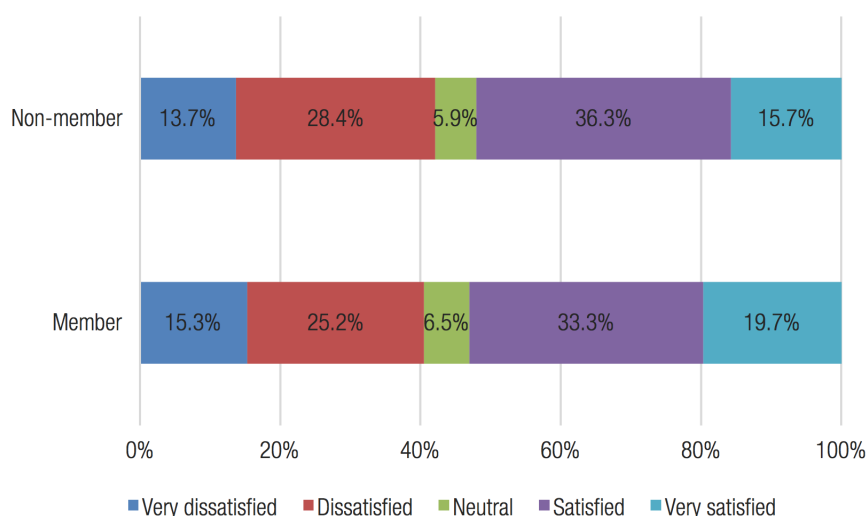
5.3.1 Cocoa prices and income

Satisfaction with cocoa prices

Nearly all respondents (99 percent of members and 97 percent of non-members) report never having received lower prices in any year for their cocoa than what was authorized by COCOBOD. However, about 40 percent of members and 42 percent of non-members indicate that they are either

dissatisfied or very dissatisfied with recent cocoa prices received (fig 16). The general perception among these producers is that cocoa prices are low compared to the efforts they make.

FIGURE 16. MEMBER AND NON-MEMBER SATISFACTION WITH COCOA PRICES



Cocoa-derived income

Total annual revenue from cocoa was estimated at about USD 2722 for members and USD 2347 for non-members (table 37). This amount represented about 74 percent of the total income of the respondents. In addition, Fairtrade members are expected to generate additional income from the Fairtrade Premium. Analyses of the data for Coop1 and Coop2, for example, show that individual members from these cooperatives may earn additional incomes of USD 34 and USD 41 per cocoa production season

from the Fairtrade Premium. The Premium is a welcome additional income source but not a significant contribution to households' overall income. However, if the cooperatives had been able to sell all of their Fairtrade-certified cocoa as such (while maintaining the same percentage of the Premium directed towards direct payment to members), the average Premium paid to members for 2013/2014 would have reached USD 74 per member.

TABLE 37. COCOA-DERIVED INCOME FOR MEMBERS AND NON-MEMBERS IN 2012/2013 (USD)

Characteristic	Statistic	Member	Non-member	Test statistic
	Mean	2721.9	2347.6	t = 0.805 p = 0.422
	Std Dev	2646.9	2380.3	
	Valid N	177	38	
Percent of income coming from cocoa				
	Mean	74	71	t = 1.458 p = 0.146
	Std Dev	17	20	
	Valid N	321	66	

*1 USD = 1.95 GHS

Main income sources

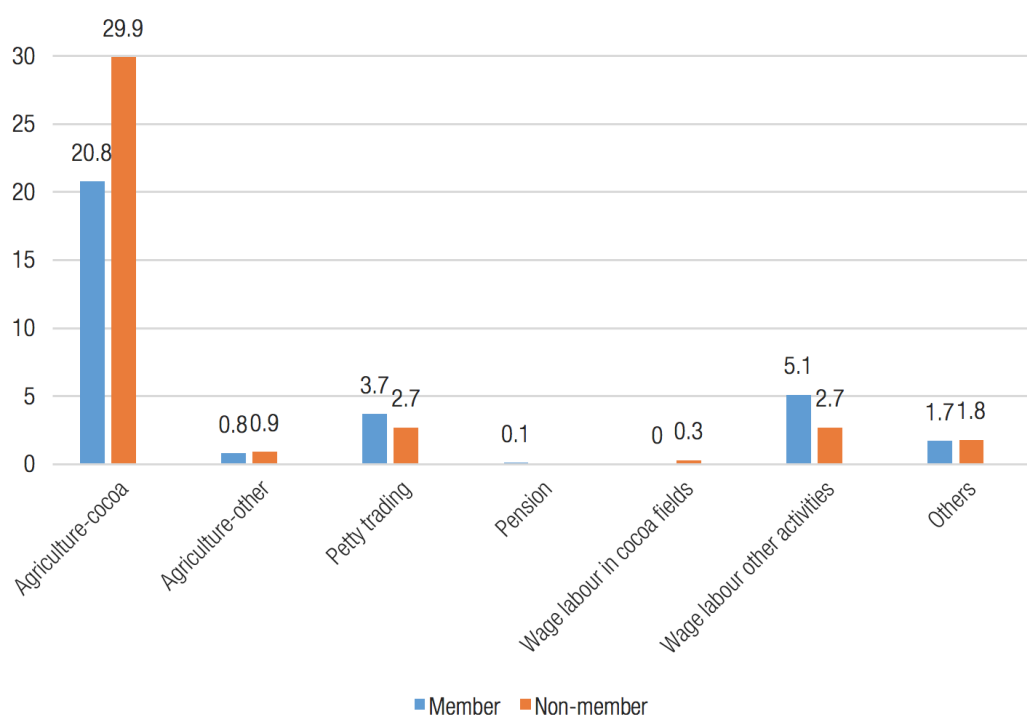
Some 67 percent of the individuals in the sampled households, mainly young children and youth, from both member and non-member households do not

have any source of income. Cocoa production was the most important source of income for 20.8 percent of all the member households. Petty trading (including

microenterprise) and wage labour were the main sources of income for 3.7 and 5.1 percent of all the member households, respectively (fig 17). In general, non-members were more likely to have identified cocoa as the most

important income source, while member households were more likely to have identified wage labour as the most important income source.

FIGURE 17. MAIN SOURCES OF INCOME FOR COCOA-FARMING HOUSEHOLDS, IN PERCENTAGES (MEMBERS AND NON-MEMBERS)



Other income sources

About 85 percent of members had sources of income in addition to cocoa. Other food crops were ranked first by 47 percent of the respondents as the most important source of income other than cocoa (table 38). This was followed by small business, which was ranked first by 18.2

percent of the respondents. Paid labour was not common as an alternative source of income—it was ranked first and second in importance by only five of the 314 respondents. There were no significant differences between members and non-members.

TABLE 38. MEMBERS' RANKING OF INCOME SOURCES IN ADDITION TO COCOA IN 2013

Other sources of income	Most important following cocoa	Second most important following cocoa	Third most important following cocoa
	Number of members (%)		
Labourer on other farms	4 (1.3)	1 (0.3)	0 (0.0)
Livestock	8 (2.5)	8 (2.5)	2 (0.6)
Mining	1 (0.3)	1 (0.3)	0 (0.0)
Other food crops	140 (44.6)	8 (2.5)	1 (0.3)
Others	33 (10.5)	7 (2.2)	3 (1.0)
Pension	6 (1.9)	0 (0.0)	0 (0.0)
Remittances	17 (5.4)	3 (1.0)	0 (0.0)
Small business	57 (18.2)	12 (3.8)	0 (0.0)
Tree crops	1 (0.3)	1 (0.3)	0 (0.0)
Total	267 (85.0)	41 (13.1)	6 (1.9)

5.3.2 Access to financial services

Access to loans and savings

Figure 18 presents respondents' sources of loans and saving destinations in the 2012/2013 season. Results show that about 38 percent of the 396 respondents (members and non-members) had sometimes or frequently received informal short-term cash loans from LBCs (fig. 18a). Most of the loans came as advances that local purchasing clerks provided to growers to secure cocoa, thus reflecting a considerable degree of competition among different LBCs in the communities. Relatives and friends represented other important sources of loans for 46 percent out of the 136 cooperative members who borrowed from other sources (fig 18c). More than 90 percent of respondents had never received loans in the form of cash nor inputs from any of the primary societies or unions. There were significant differences between the unions on their sources of loans and also between members and non-members. For example, a significant number of cooperative members (40 percent) compared to non-members (28 percent) had sometimes or most of the time received loans from LBCs.

As explained in the context report, this may be related to the fact that some of the purchasing clerks representing the LBCs are members of the unions and thus have more trust in members with whom they participate in the same meeting. About 62 percent of both members and non-members declared that they did save some money in 2013 to buy inputs and equipment (fig 18e). Even though conventional banks do not provide loans, about 88 percent of the respondents declared that it is their major saving destination.

The average amount of loans received by respondents is reported in table 39, together with the interest rates. Loan amounts vary from USD 1 to USD 2051. Average interest rates vary from 11 to 30 percent per month, depending on the source and type of loan and also the union. Cases of 100 to 150 percent interest rates were reported in the Coop1 union and also for non-members in the 2012/2013 season.

FIGURE 18. RESPONDENTS' SOURCES OF LOANS AND SAVING DESTINATIONS IN 2012/2013 COCOA PRODUCTION SEASON

Figure 18a

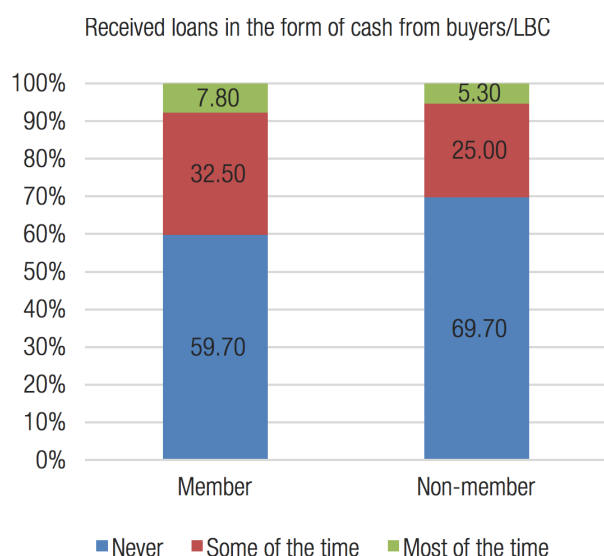


Figure 18b

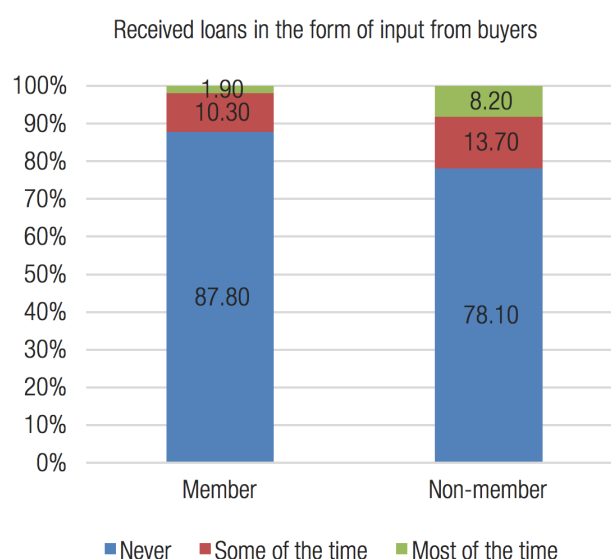


Figure 18c

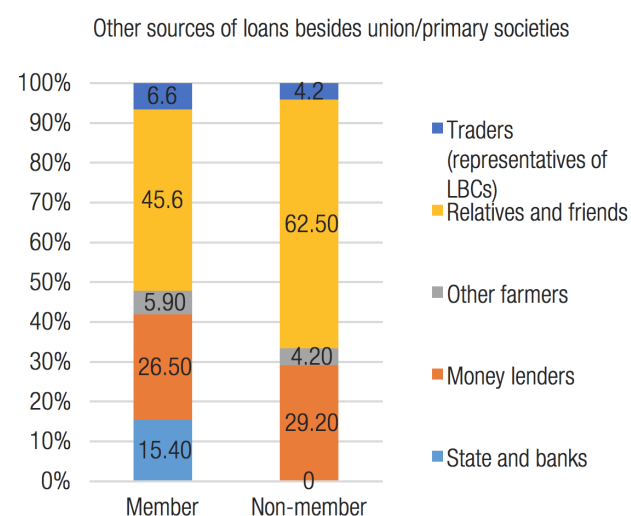


Figure 18d

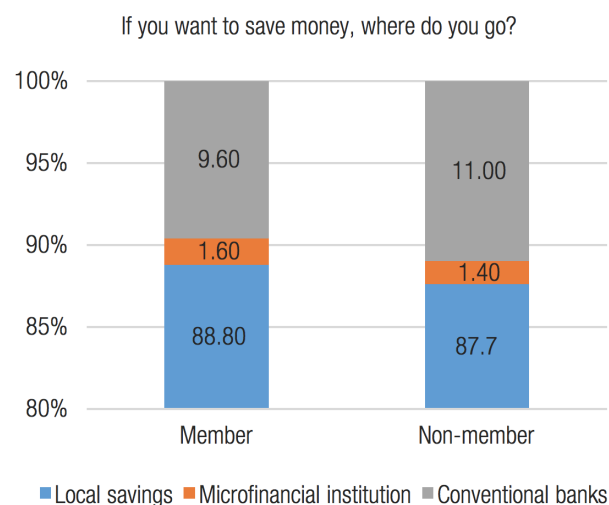


Figure 18e

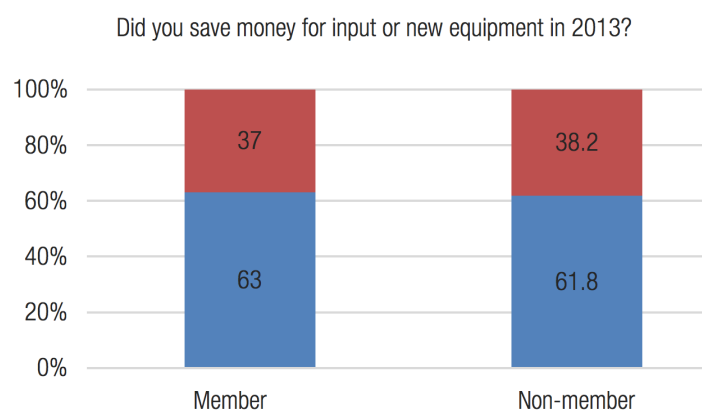


TABLE 39. AMOUNT AND COST OF CREDIT FOR MEMBERS AND NON-MEMBERS, 2012/2013 PRODUCTION YEAR

Characteristic	Statistic	Member	Non-member	Test statistic
Interest rate of loan received from buyers/LBCs in the form of inputs (%)	Mean	11	7	t = 0.518 p = 0.608
	Std Dev	26	16	
	Minimum	0	0	
	Maximum	100	50	
	Valid N	28	11	
Amount of the last loan received from any lender (USD)	Mean	402	321	t = 0.983 p = 0.327
	Std Dev	428	336	
	Minimum	1	0	
	Maximum	2051	1283	
	Valid N	154	30	
Interest rate of the last loan received in 2012/2013 production season (%)	Mean	30	27	t = 0.380 p = 0.704
	Std Dev	36	43	
	Minimum	0	0	
	Maximum	100	150	
	Valid N	111	23	

*(1 USD = 1.9 GHS)

Reflections on findings

- The communities were **highly dependent on cocoa**—deriving about 74 percent of their revenue from it. Most respondents reported other sources of on-farm income and roughly half of respondents considered the income from other food crops as an important source of income. These findings suggest the potential to promote agricultural diversification and small business to augment economic activities in the communities.
- **The Fairtrade Premiums passed to members were small**; however, they are likely to provide strong motivation for participation in the cooperatives. The amount offered by the cooperatives appears to be in line with that offered by other Fairtrade cocoa cooperatives in Ghana (Nelson et al 2013).
- **Farmers generally did not have access to loans from either formal or informal sources**. Among those households that did report access to loans, the main sources were LBCs, relatives and friends.

Summary: financial capital held by cocoa farming households

Table 40 presents an overall assessment of the status of the financial capital of cocoa-farming households and the justification of the assessment.

TABLE 40. SUMMARY: FINANCIAL CAPITAL ENDOWMENTS (FARMING HOUSEHOLDS)

Indicator	General assessment of current situation*	Justification of assessment
Gross income from cocoa sales	Green	Household income is highly dependent on cocoa, with cocoa contributing about 74 percent of respondents' incomes.
Cocoa prices and satisfaction with cocoa prices	Yellow	Nearly all (99 percent) of respondents report having never received prices lower than the fixed price set by COCOBOD. About 70 percent of respondents were not satisfied with the prices because they were not considered commensurate with efforts invested. Current producer prices represent 75 percent of FOB.
Income from other sources	Yellow	About 90 percent of the respondents have sources of income other than cocoa, but these contribute only marginally to annual gross incomes.
Loans, sources used, interests rates	Yellow	Most individual farmers obtain informal loans from purchasing clerks. Access to credit is generally quite limited.

*Green = overall clear positive situation for cooperative development; Yellow = overall situation provides reasons to be optimistic, but a few critical issues need to be addressed; Red = overall situation is not favourable to the development of viable cooperative unions

5.4 Human capital—farming households

5.4.1 Household size, age distribution and education level

The average household size for members was six and non-members, five (+/- 3). In the total sample of members and non-members, 60 percent of all household members were less than 20 years of age and about four percent were 60 or older (fig 19). Most household members (84 percent non-members and 85.9 members) had at least a primary education and the rest (16 percent members and 14.1 non-members) had never been to school (fig 20).¹² About 62.5 percent of both members and non-members who had children of school age enrolled them in school in 2013, meaning that about 37.5 percent of school-age children

did not go to school. A slightly higher number of children of member households (63.5 percent) were enrolled in school compared to children in non-member households (60 percent).

In all of the unions, an almost equal proportion of school-age boys and girls were enrolled in schools in 2013 (fig 21). Estimates from the Ghana 2008 Living Standards Survey put school enrolment at about 86 percent for the country and 54 percent for rural Ghana (Ghana Statistical Service, cited by Ahiakpor and Swaray 2015).

¹² The educational structure of Ghana can be described as 6-3-3-4. The official age to start school in Ghana is 6 years. Preschool education is not compulsory and normally caters to children 3 to 5 years of age. However, these ages are not respected—children of all ages are enrolled in school (UNESCO, International Bureau of Education 2011). The 6-3-3-4 structure represents six years of primary education (divided in three years of lower primary and three years of upper primary). Secondary education is divided into three years of junior high school and three years of senior high; university is four years. The first nine years form the basic education and is free and compulsory.

FIGURE 19. AGE COMPOSITION OF COCOA-FARMING HOUSEHOLDS (MEMBERS AND NON-MEMBERS)

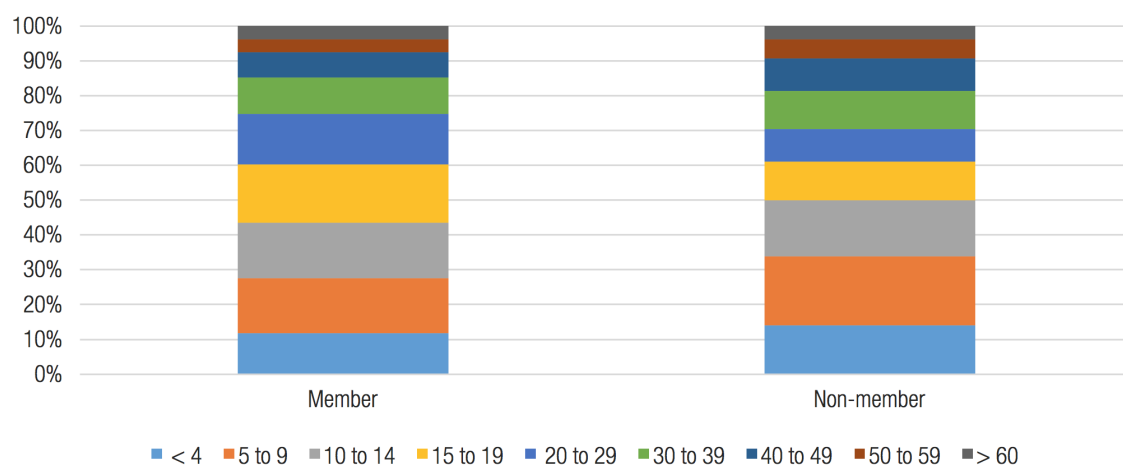


FIGURE 20. EDUCATION LEVEL OF COCOA-FARMING HOUSEHOLDS (MEMBERS AND NON-MEMBERS)

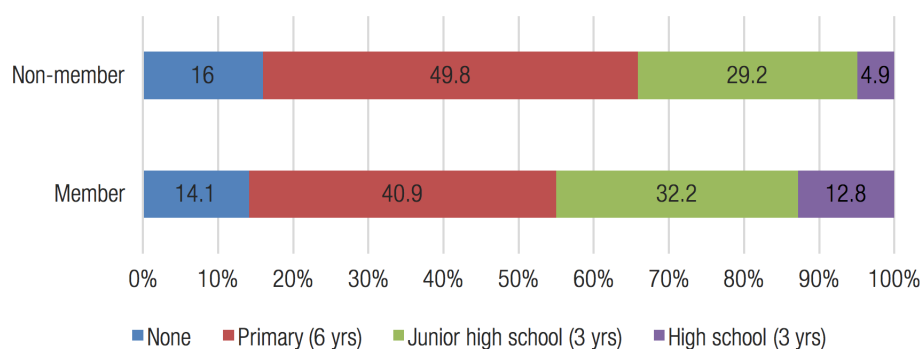
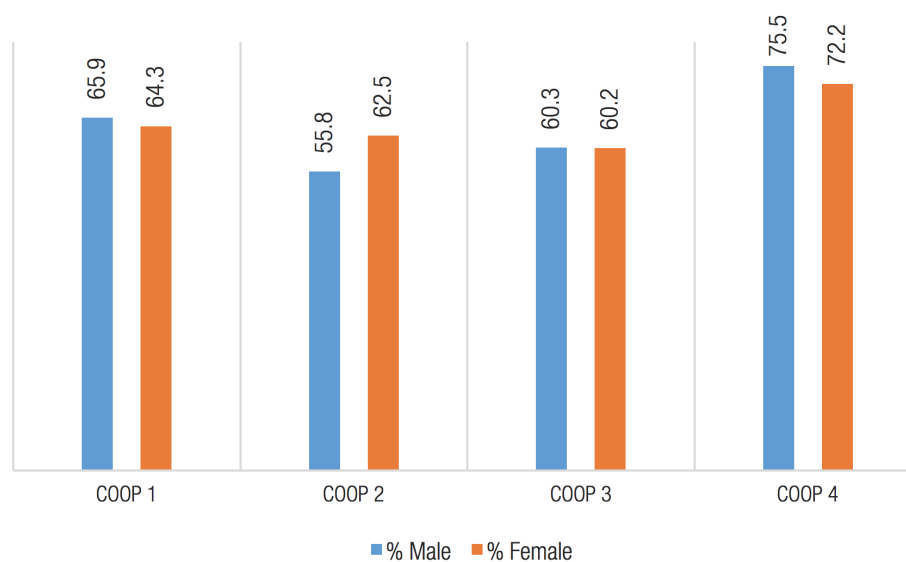


FIGURE 21. PERCENTAGE OF SCHOOL-AGE HOUSEHOLD MEMBERS ENROLLED IN SCHOOL IN 2013 (BY COOPERATIVE UNION)



5.4.2 Members' access to training

The most common type of training farmers attended before joining the cooperatives was related to farm management (28.9 percent) and pest management (25.5 percent) (fig 22). After joining a cooperative, most households were exposed to an expanded set of training themes, including labour rights, child protection and leadership (fig 23). Non-members claimed to have received some training, most of which was intended to increase agricultural production

and productivity. Aspects connected to cooperative participation, leadership, group dynamics (formation and management of groups) and also gender were among those for which members were least trained before joining the cooperatives. Likewise, only few non-members had been trained on social aspects such as group dynamics and gender.

FIGURE 22. PERCENTAGE OF MEMBERS HAVING RECEIVED DIFFERENT TRAININGS BEFORE AND AFTER JOINING COOPERATIVE

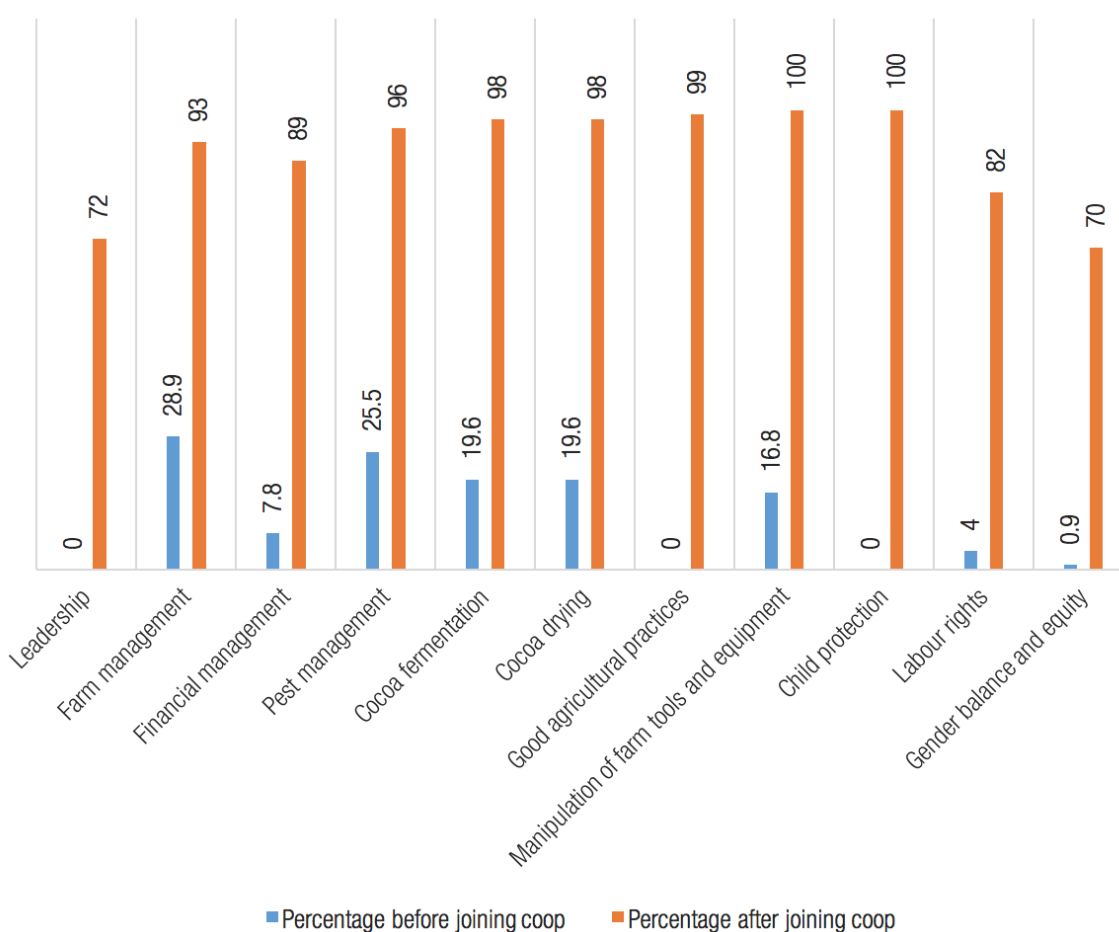
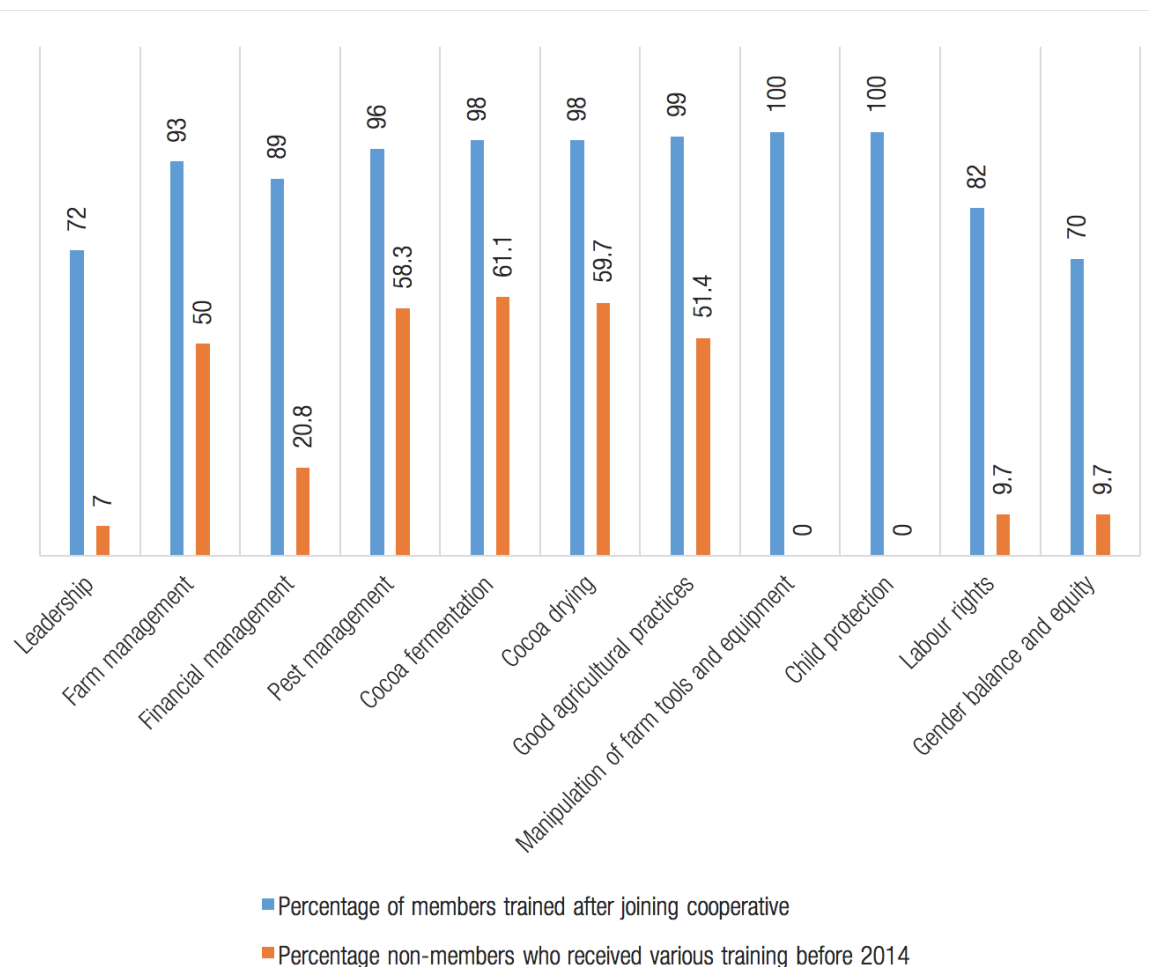


FIGURE 23. PERCENTAGE OF MEMBERS AND NON-MEMBERS HAVING RECEIVED DIFFERENT TRAININGS



More non-members seem to have received training in pest management, cocoa drying, fermentation and good agricultural practices than members had before they joined the cooperatives. This may be related to recent efforts by the government of Ghana through the COCOBOD to improve production in the sector. As figure 23 shows, this changed dramatically after members joined the cooperative

union, where they received more training than non-members.

More than 95 percent of the members were either very satisfied or satisfied with the content of the training (table 41).

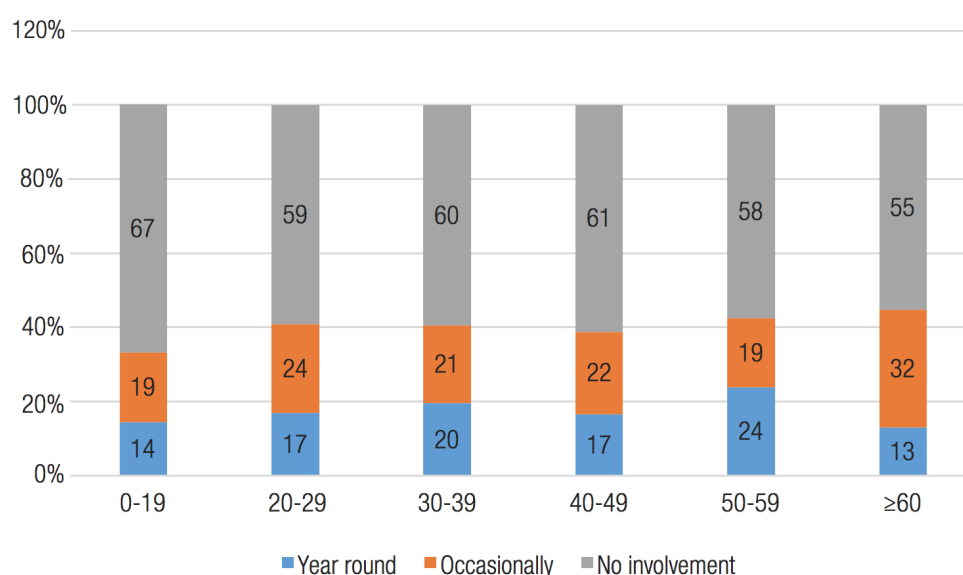
TABLE 41: MEMBERS' REPORTED LEVEL OF SATISFACTION WITH TRAININGS RECEIVED

Type of training	Very satisfied	Satisfied	Neutral	Dissatisfied	Very dissatisfied
	Number of members (%)				
Group dynamics	163 (70.8)	63 (27.9)	2 (0.9)	1 (0.4)	0 (0.0)
Leadership	112 (72.3)	41 (26.5)	2 (1.3)	0 (0.0)	0 (0.0)
Farm management	229 (77.6)	66 (22.4)	0 (0.0)	0 (0.0)	0 (0.0)
Financial management	219 (76.3)	67 (23.3)	1 (0.3)	0 (0.0)	0 (0.0)
Pest management	237 (78.0)	65 (21.4)	1 (0.3)	1(0.3)	0 (0.0)
Cocoa fermentation	229 (77.6)	66 (22.4)	0 (0.0)	0 (0.0)	0 (0.0)
Drying of cocoa	245 (78)	65 (20.8)	2 (0.6)	2 (0.6)	0 (0.0)
Manipulation of farm tools	247 (78.2)	66 (20.9)	2 (0.6)	1 (0.3)	0 (0.0)
Labour rights	202 (78.2)	66 (20.9)	1 (0.4)	1 (0.4)	0 (0.0)
Gender	168 (77.8)	46 (21.3)	2 (0.9)	0 (0.0)	0 (0.0)

5.4.3 Number and type of members working on cocoa farms

Respondents were asked which household members worked on cocoa farms and their level of engagement. Figure 24 shows reported participation in cocoa activities by cooperative members according to age group. The 50 to 59 age group was the most active in cocoa production, with nearly 24 percent of household members in this group working year-round in cocoa production, while about 33 percent of young people (age 19 and under) were involved in cocoa production to some extent. Additional research is needed to understand the type of activities carried out by young people, including children, and the implications

for their well-being. Focus group discussions revealed that most parents would not want their children to work on cocoa farms. For many parents, only those children with limited interest in school or who would be forced out of school due to household financial limitations would be encouraged to take over their cocoa farms. Members said that cocoa production was strenuous and opportunities were better in other sectors, such as nursing, teaching and politics. As one parent said, "Why do you want my child to continue suffering in cocoa farms doing this type of hard labour like me?"

FIGURE 24. LEVEL OF PARTICIPATION OF MEMBERS IN COCOA ACTIVITIES IN PERCENTAGES (BY AGE GROUP) IN 2013

Respondents were asked to indicate labour involvement of male and female household members in different cocoa activities. Level of participation was captured on a five point Likert scale (fig 25, fig 26 and fig 27). Results show that more men participate at a high or very high rate in land preparation for both member (83.5 percent) and non-member households (94.5 percent); in planting (81.6 members and 94.1 non-members); and in input or chemical application (82.8 percent members and 83.4 non-members)

compared to women. Comparisons among women are as follows: land preparation (56.8 percent for members and 67.5 non-members); planting (81.1 members and 86.4 non-members); application of input (52.8 percent members and 58.9 non-members). When gender differences were compared for members and non-member households for the same activities, more women non-members were found to be involved at a high or very high rate in all the activities.

FIGURE 25. PERCENTAGE OF MEMBERS AND NON-MEMBERS WITH DIFFERENT LEVELS OF ENGAGEMENT IN LAND PREPARATION IN 2013

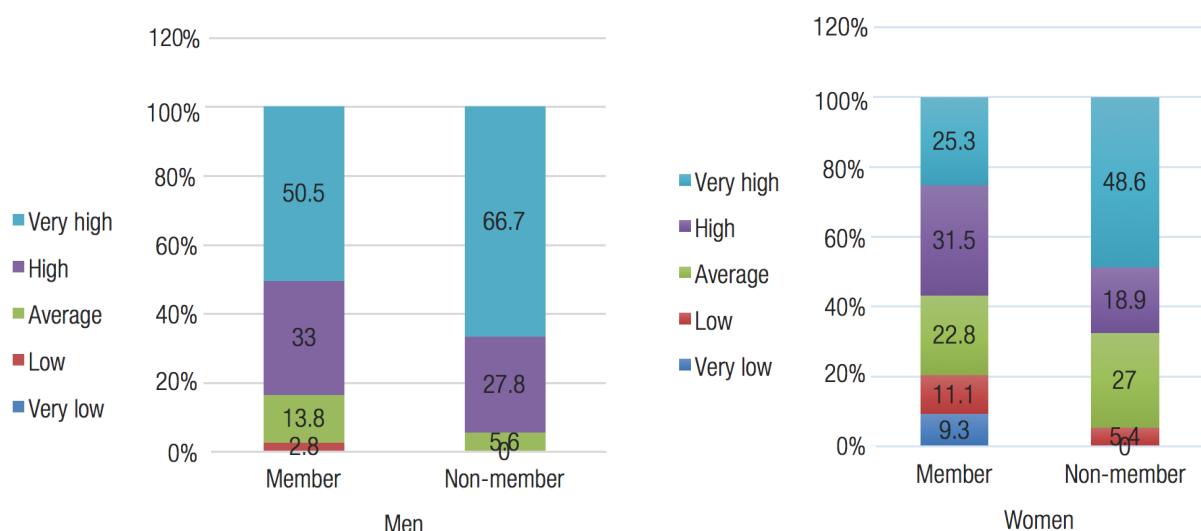


FIGURE 26. PERCENTAGE OF MEMBERS AND NON-MEMBERS WITH DIFFERENT LEVELS OF PARTICIPATION IN PLANTING ACTIVITIES

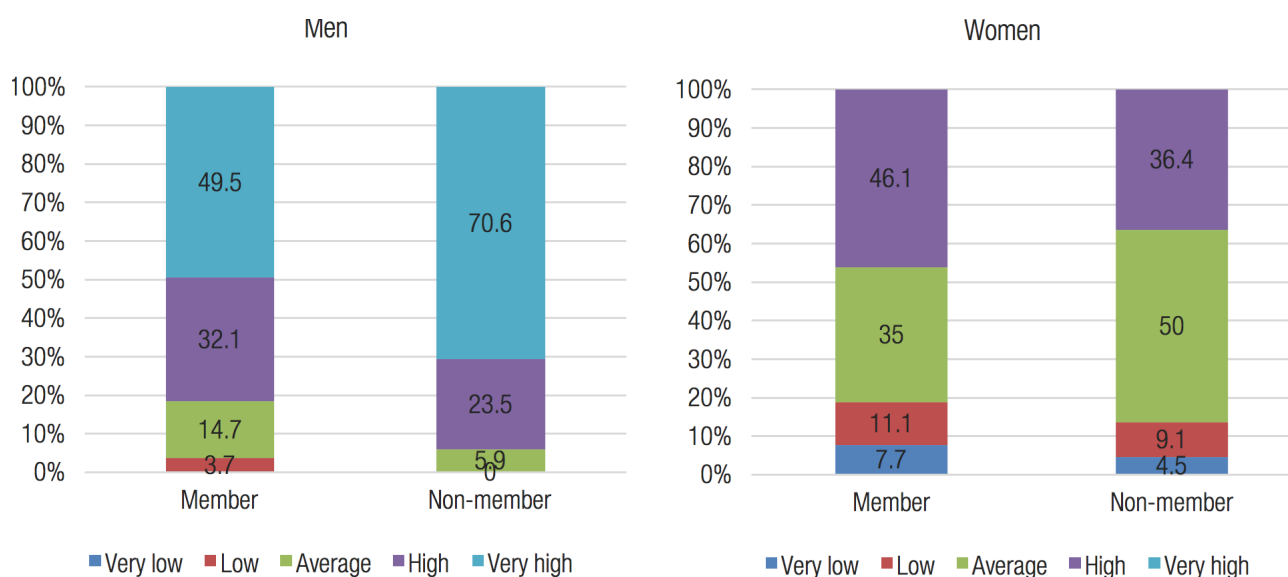
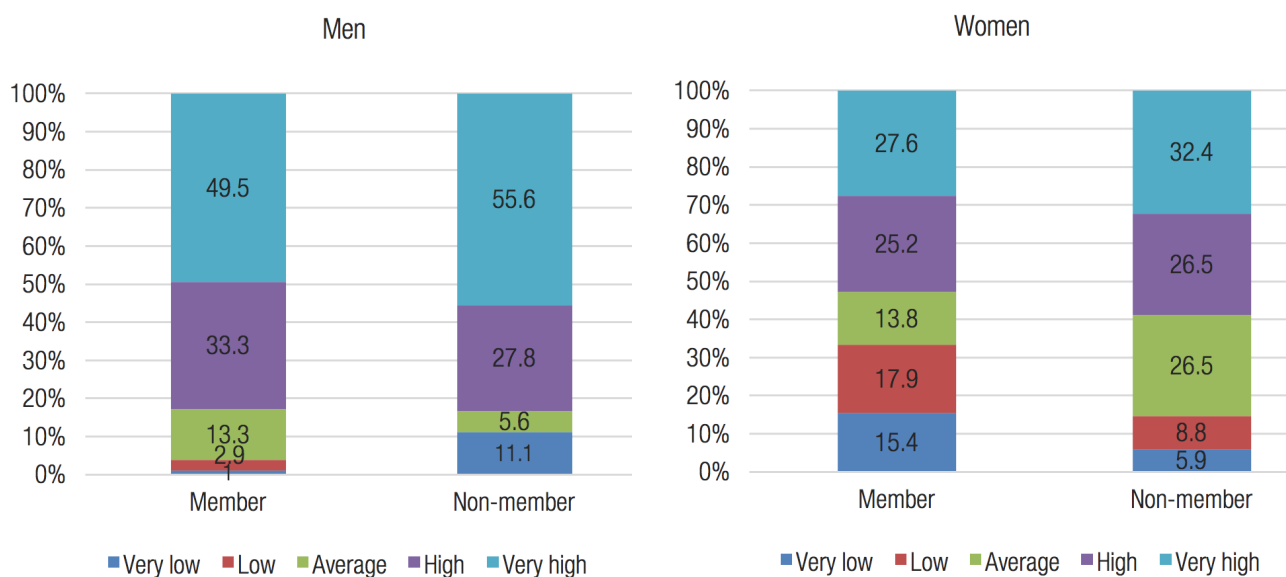
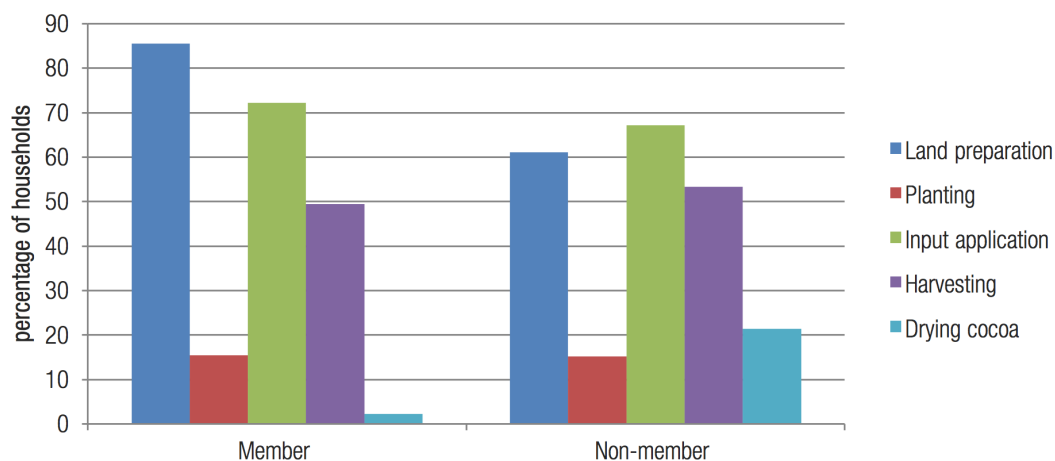


FIGURE 27. PERCENTAGE OF MEMBERS AND NON-MEMBERS WITH DIFFERENT LEVELS OF ENGAGEMENT IN INPUT APPLICATION

5.4.4 Use of hired labour

The most common activities for which respondents hired labour in 2013 were land preparation (weeding), application of inputs and cocoa harvesting (fig 28). These activities can

either be classified as those that require a relatively high level of physical effort or are risky in terms of health.

FIGURE 28. HOUSEHOLDS USING HIRED LABOUR FOR COCOA-RELATED ACTIVITIES IN 2013

5.4.5 Amount spent on hired labour

Table 42 presents the average amount spent on hired labour for different activities associated with cocoa production. Land preparation seems to require the greatest

use of hired labour: its cost was twice that of other activities.

TABLE 42. AMOUNT SPENT ON HIRED LABOUR (PER DAY) FOR ACTIVITIES RELATED TO COCOA PRODUCTION (USD) IN 2013

Variable	Statistic	Cooperative membership	
		Member	Non-Member
Amount spent on hired labour for land preparation per day	Mean	17.00	6.33
	Std Dev	33.33	60.66
	Valid N	199	43
Amount spent on hired labour for planting per day	Mean	4.00	3.66
	Std Dev	2.00	1.00
	Valid N	31	8
Amount spent on hired labour for applying inputs per day	Mean	6.00	6.33
	Std Dev	9.00	7.66
	Valid N	158	41
Amount spent on hired labour for harvesting per day	Mean	6.00	4.33
	Std Dev	6.66	1.66
	Valid N	108	27

5.4.6 Safety and access to health services

The indicators that assess worker safety and respondents' access to health are reported in figure 29, figure 30 and figure 31. A significant number of members compared to non-members used protective equipment in 2013 when applying inputs ($\chi^2 = 9.442$, $p = 0.024$) and significantly more members than non-members had health insurance ($\chi^2 = 8.120$, $p = 0.002$). However, we have no evidence to suggest that these differences were linked to engagement

with the cooperatives or specific interventions by NGOs, buyers or government agencies. It is worth mentioning that rural health insurance schemes are common in Ghana. This explains why a high number of both members and non-members are insured. Nevertheless, members complain that though health insurance covers all minor diseases, when they have serious cases, such as accidents, the insurance does not cover them.

FIGURE 29. PERCENTAGE OF PROTECTIVE EQUIPMENT USE IN 2013 (MEMBERS AND NON-MEMBERS)

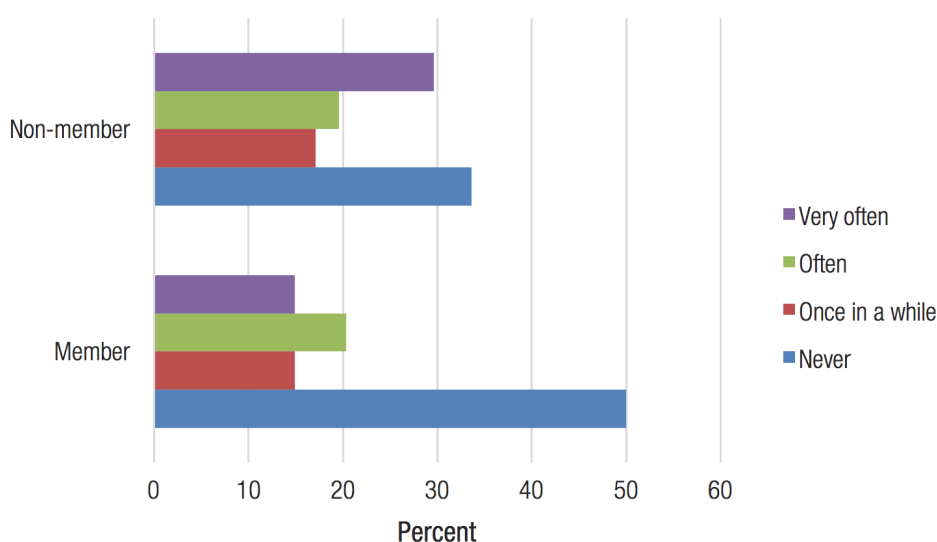
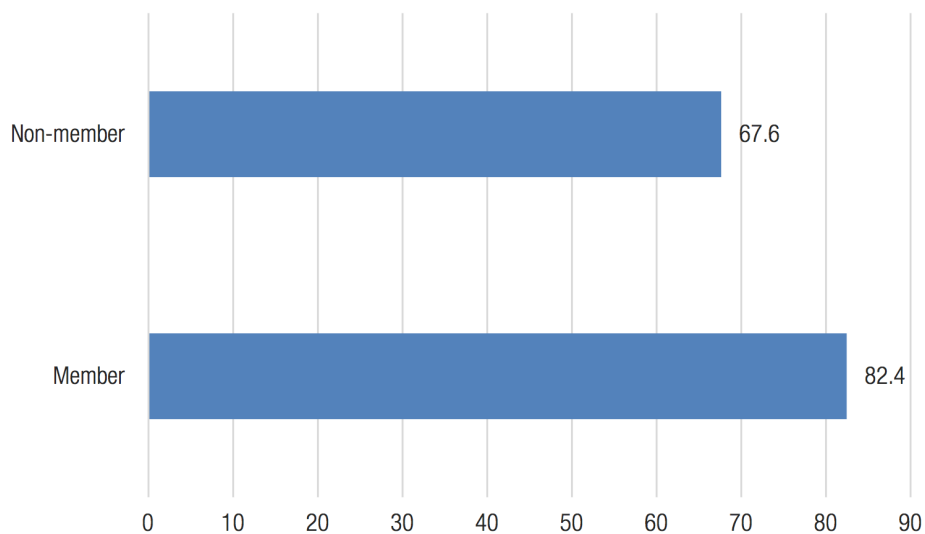
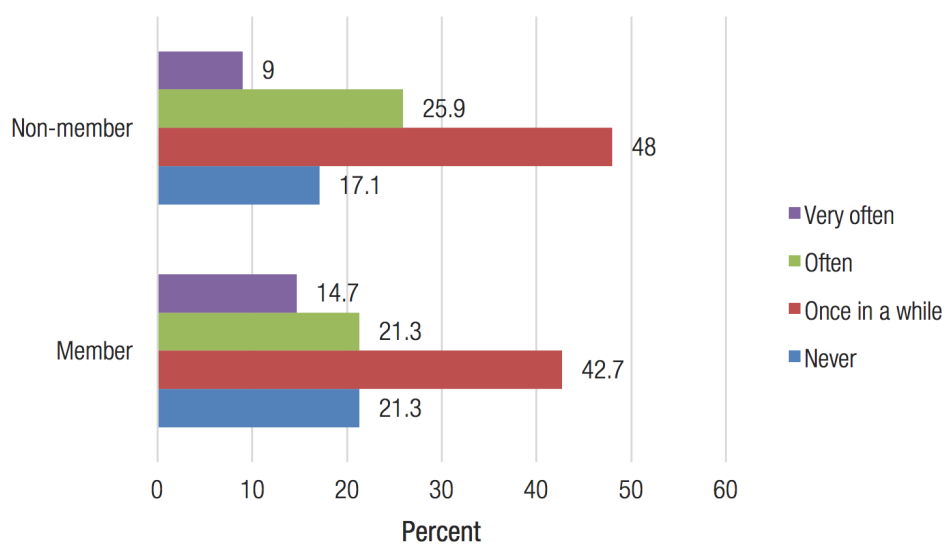


FIGURE 30. PERCENTAGE OF HOUSEHOLDS HAVING HEALTH INSURANCE IN 2013 (MEMBERS AND NON-MEMBERS)**FIGURE 31.** PERCENTAGE OF HOUSEHOLDS FORGOING A TRIP TO HOSPITAL IN 2013 DUE TO LACK OF MONEY

Summary: human capital held by cocoa farming households

Table 44 presents an overall assessment of the human capital of cocoa-farming households and the justification of the assessment.

TABLE 43. SUMMARY: HUMAN CAPITAL ENDOWMENT (FARMING HOUSEHOLDS)

Indicator	General assessment of current situation*	Justification of assessment
Children of household members attending school disaggregated by gender and age	Yellow	There is a youthful population but the probability of children taking over their parents' farm is low. Proportion of school-age children not attending school is high (38 percent). Almost equal proportion of school-age boys and girls are attending school.
Contribution of household members to cocoa production	Yellow	Generally more men than women do most of the physical/risky jobs, such as application of chemicals.
Contribution of seasonal and year-round hired labour	Yellow	Hired labour is mostly required for physical activities, specifically land preparation and application of inputs.
Use of protective equipment	Red	Percentage of households not using protective equipment may be considered high (37 percent) for both member and non-member households.

*Green = overall clear positive situation for cooperative development; Yellow = overall situation provides reasons to be optimistic, but a few critical issues need to be addressed; Red = overall situation is not favourable to the development of viable cooperative unions

5.5 Social capital—farming households

5.5.1 Knowledge of Fairtrade

Respondents were asked to explain the goals and purpose of Fairtrade certification (fig 32). The open answers provided were classified into four groups—no idea, little or wrong knowledge, fair knowledge and extensive knowledge about Fairtrade. Examples of incomplete knowledge include:

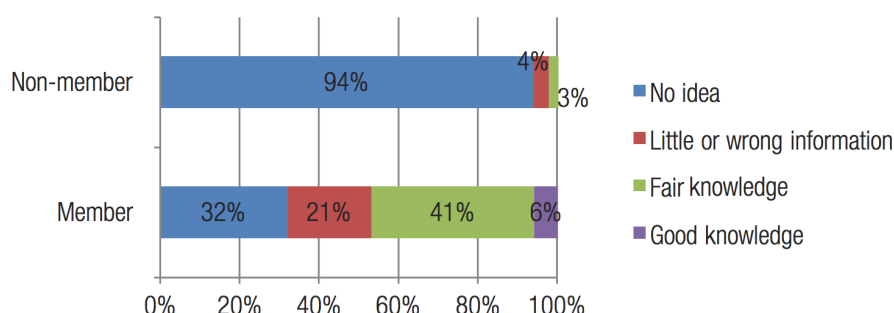
- Organization that helps cocoa farmers in their business and supplies them with inputs and chemicals;
- Organization that seeks welfare of farmers;
- Farmer cooperative;
- Organization that helps farmers have high productivity for cocoa;
- Organization that teaches farmers the best way to improve productivity.

Examples of fair knowledge include:

- They are our cocoa partners for fair and honest trade;
- Organization that helps farmers produce cocoa and trade with transparency;
- Organization that give Premiums to cocoa farmers;
- Certification that helps farmers improve their yields;
- Trading that does not cheat.

A respondent's reply was classified as good knowledge if it had the following elements: transparency, Premiums, fair and honesty in the same definition. An estimated 32 percent of members were considered to have no idea about the meaning of Fairtrade, while a relatively small number (six percent) seemed to have good knowledge.

As to the Fairtrade Premium, almost all cooperative union respondents (97 percent) said that they knew what the Fairtrade Premium was about in terms of goals and purpose. Some 84 percent said that they knew how the Premiums were calculated in the primary society, but only 44 percent declared that they contributed to making decisions about the use of the Fairtrade Premium at the primary society level. However, this may reflect the development phase of the cooperatives and the number of years of Fairtrade certification. It takes time for a cooperative to fully implement a member consultation process in line with the requirements in the Fairtrade Standard. The Standard takes this into account with a requirement that cooperatives design and start implementing a process to collect and analyse the development needs in their organization and surrounding communities before allocating Fairtrade Premium only after six years of Fairtrade certification.

FIGURE 32. SELF-REPORTED KNOWLEDGE OF FAIRTRADE (MEMBERS AND NON-MEMBERS)

Other related information about knowledge of Fairtrade and the Fairtrade Premium is recorded in table 44. Results show significant differences among respondents from different unions and also between males and females for some of the variables assessing knowledge of Fairtrade and the Fairtrade Premium. The differences in knowledge of Fairtrade among the unions may be explained by the

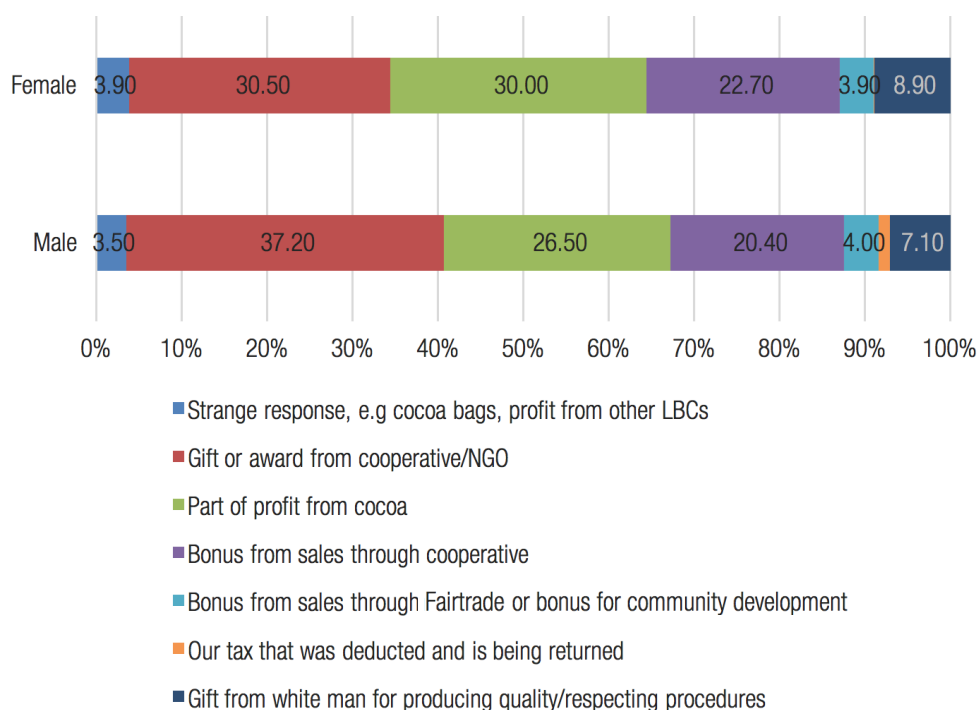
relative level of engagement and impact of Fairtrade staff in their role of facilitating sensitization and implementation of the Fairtrade Standard as well as NGOs that engaged with the different unions. Even though a high proportion of respondents affirmed they knew what the Fairtrade Premium is, few could actually explain it, as reflected by their responses in figure 33.

TABLE 44. SELF-REPORTED KNOWLEDGE OF FAIRTRADE, BY GENDER (MEMBERS)

	Male N (%)	Female N (%)	Total N (%)	Test statistic
Do you know how decisions are arrived at in the union?				
Yes	82 (40.0)	30 (25.6)	112 (34.8)	X ² = 6.77 p = 0.009
No	123 (60.0)	87 (74.4)	210 (65.2)	
Total	205 (100.0)	117 (100.0)	322 (100.0)	
Do you know how decisions are arrived at in the primary society?				
Yes	196 (96.1)	108 (92.3)	304 (94.7)	X ² = 2.108 p = 0.147
No	8 (3.9)	9 (7.7)	17 (5.3)	
Total	204 (100.0)	117 (100.0)	321 (100.0)	
Do you know what the Fairtrade Premium is?				
Yes	203 (99.0)	110 (94.8)	313 (97.5)	X ² = 5.369 p = 0.02
No	2 (1.0)	6 (5.2)	8 (2.5)	
Total	205 (100.0)	116 (100.0)	321 (100.0)	
Do you know how the primary society distributes the Fairtrade Premium?				
Yes	184 (89.8)	87 (75.0)	271 (84.4)	X ² =12.266 p = 0.00
No	21 (10.2)	29 (25.0)	50 (15.6)	
Total	205 (100.0)	116 (100.0)	321 (100.0)	

	Male N (%)	Female N (%)	Total N (%)	Test statistic
How much do you contribute in the decision on how Fairtrade Premium is used?				
Some contribution	82 (48.0)	41 (36.6)	123 (43.5)	$\chi^2 = 6.559$ $p = 0.038$
Neutral	13 (7.6)	18 (16.1)	31 (11.0)	
No contribution	76 (44.4)	53 (47.3)	129 (45.6)	
Total	171 (100.0)	112 (100.0)	283 (100.0)	
Are you satisfied about the amount of Fairtrade Premium you receive?				
Very satisfied	114 (56.7)	52 (46.8)	166 (53.2)	$\chi^2 = 7.958$ $p = 0.093$
Satisfied	61 (30.3)	49 (44.1)	110 (35.3)	
Neutral	12 (6.0)	7 (6.3)	19 (6.1)	
Dissatisfied	12 (6.0)	2 (1.8)	14 (4.5)	
Very dissatisfied	2 (1.0)	1 (0.9)	3 (1.0)	
Total	201 (100.0)	111 (100.0)	312 (100.0)	
Do you know what projects are funded with the Premium?				
Yes	151 (73.7)	94 (80.3)	245 (76.1)	$\chi^2 = 1.829$ $p = 0.176$
No	54 (26.3)	23 (19.7)	77 (23.9)	

FIGURE 33. RESPONDENTS' UNDERSTANDING OF FAIRTRADE PREMIUM, BY GENDER



5.5.2 Respondents' perception of trust

Respondents were asked to assess their level of trust in different stakeholders, including cooperative members, Fairtrade and other organizations that work closely with

them. About 90 percent of cooperative members reported some level of trust or a high level of trust in Fairtrade (fig 34a). About 89 percent of the cooperative members and

83 percent of non-members had some level of trust or a high level of trust in LBCs to whom they sell their cocoa (fig 34d). However, when the general trust in the LBCs was assessed and respondents asked if they liked the LBC purchasing agents they sell their cocoa to, it was found that a comparatively lower proportion of both members and non-members felt trust. Therefore efforts to build trust are

necessary; without them, it may be difficult for exchange to take place between both parties. A very high proportion of cooperative members either have some level of trust or a high level of trust in cooperative union leadership (91 percent) and primary society levels (92 percent), which should facilitate their relationship with their leadership (fig 35).

FIGURE 34. PERCENTAGE OF MEMBERS AND NON-MEMBERS WITH DIFFERENT LEVELS OF TRUST AS RELATED TO FAIRTRADE

Figure 34a

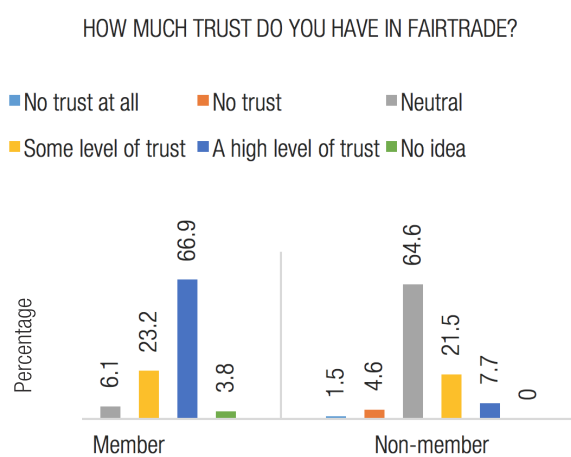


Figure 34b

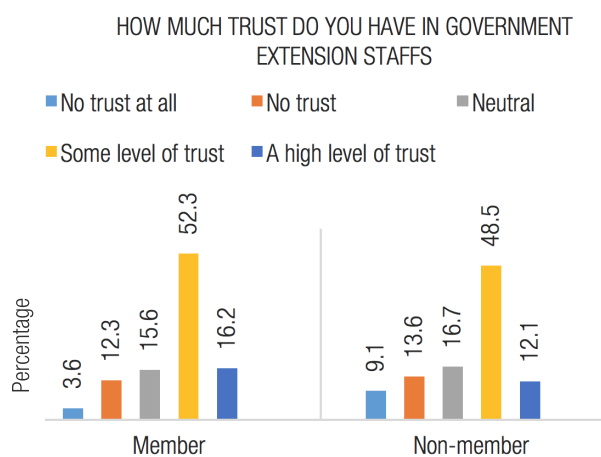


Figure 34c

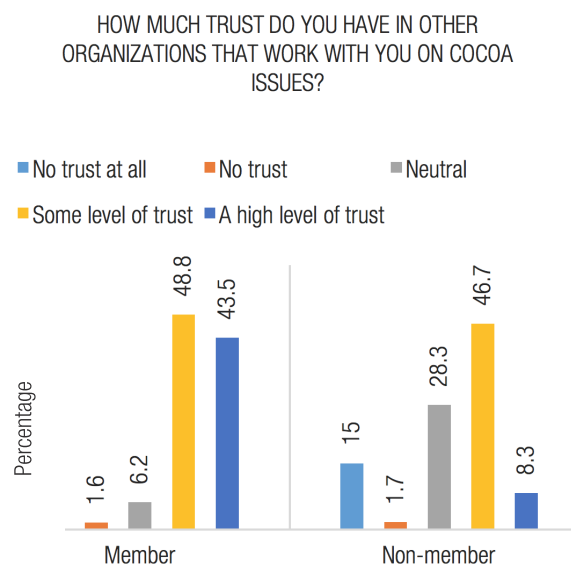


Figure 34d

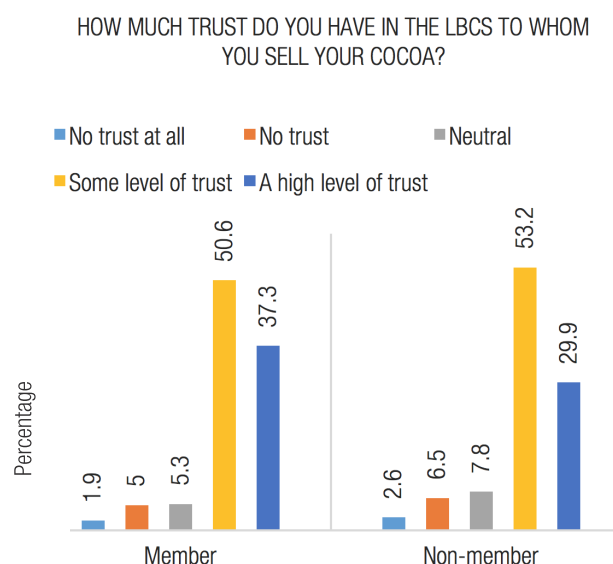
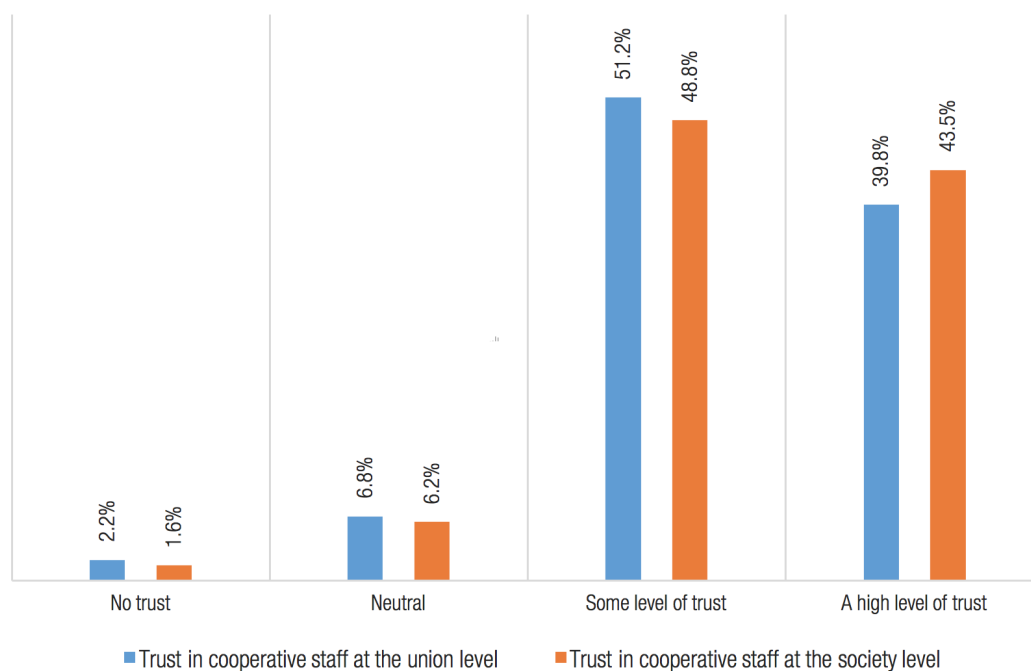


FIGURE 35. PERCENTAGE OF MEMBERS WITH DIFFERENT LEVELS OF TRUST IN COOPERATIVE UNIONS AND PRIMARY SOCIETY



5.5.3 Respondents' perceptions of unions and primary societies

Respondents were asked to list what they appreciated most or least about the unions and the primary societies to which they belong. For unions, training received was the most listed, followed by loyalty and transparent management demonstrated by union managers (fig 36). A very high proportion (about 88 percent) declared that they have no complaint about the unions (fig 37). A relatively low proportion (four percent) complained about leadership and lack of transparency in the unions and another smaller number who complained either about small or no amounts of inputs distributed by the unions to their members.

At the level of the primary societies, members (about 23 percent) were most appreciative of the fact that there is a high level of commitment, mutual respect and trust among them (fig 38). This was followed by 22 percent of the respondents who highlighted elements of good leadership, transparency and management shown by the leadership of the societies. As with the unions, most members had no complaint about the primary societies (fig 39).

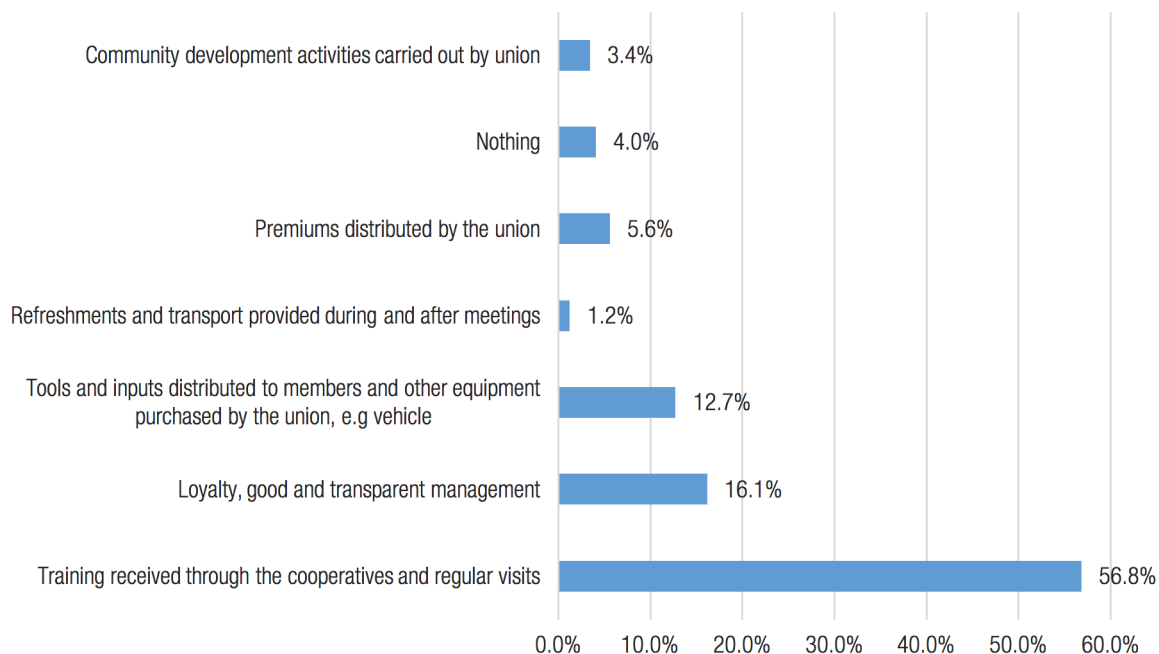
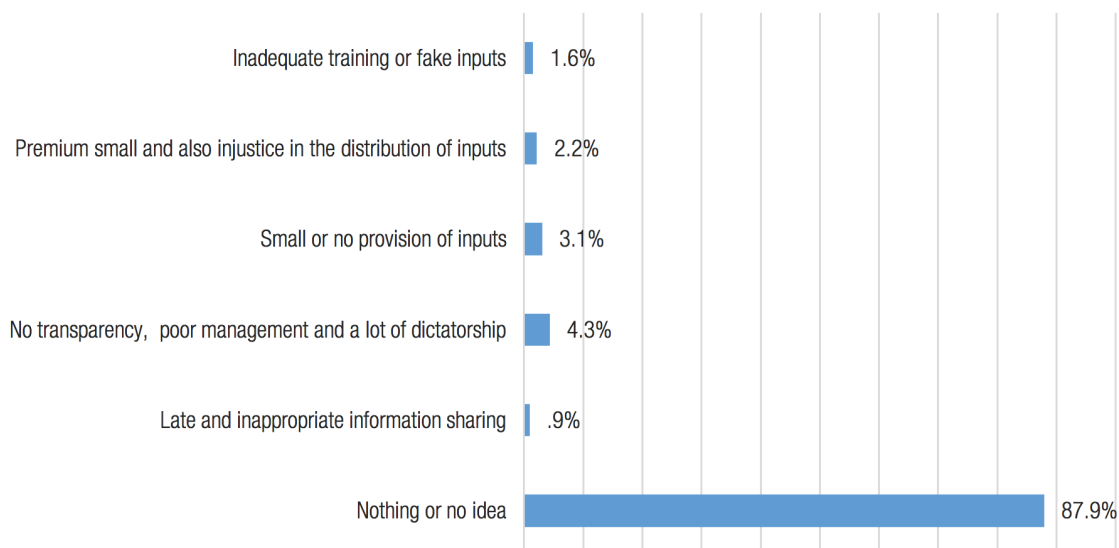
FIGURE 36. ASPECTS MOST APPRECIATED BY MEMBERS REGARDING THEIR COOPERATIVE UNION**FIGURE 37.** ASPECTS LEAST APPRECIATED BY MEMBERS REGARDING THEIR COOPERATIVE UNION

FIGURE 38. ASPECTS MOST APPRECIATED BY MEMBERS REGARDING THEIR PRIMARY SOCIETY

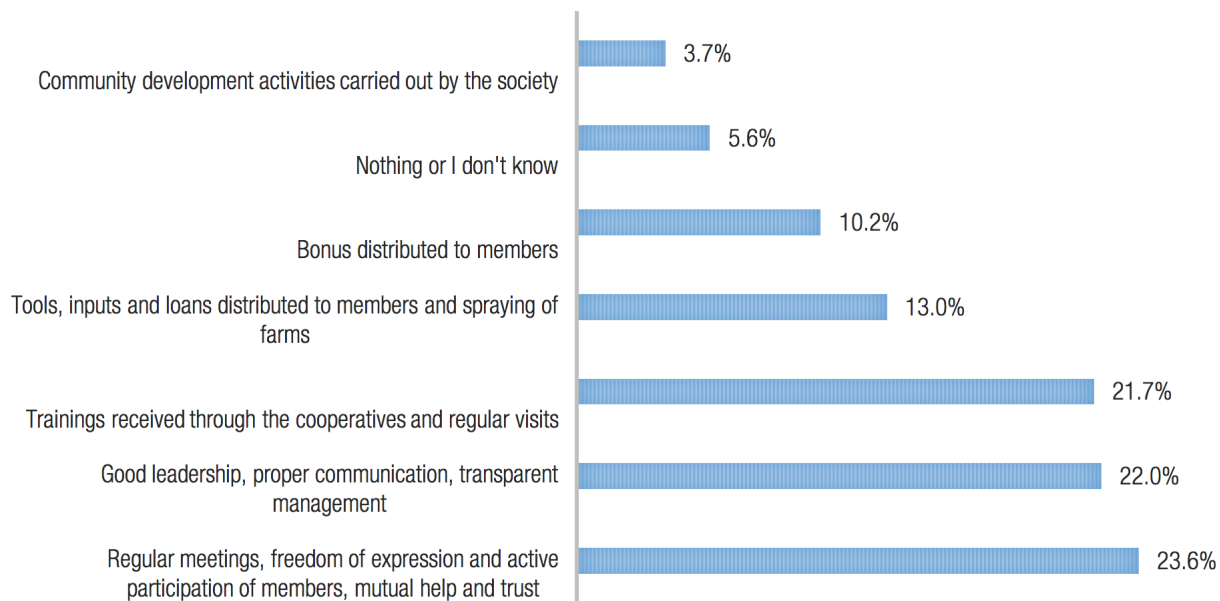
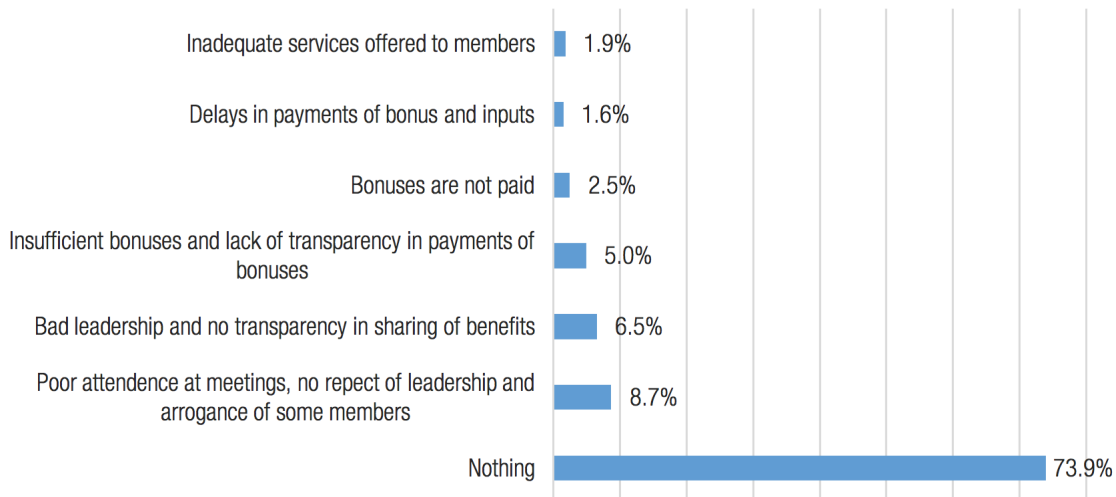


FIGURE 39. ASPECTS LEAST APPRECIATED BY MEMBERS REGARDING THEIR COOPERATIVE UNION



Reflections on findings

- The cocoa-farming households have few links to providers of external services for cocoa production or other on-farm activities. Extension and training are limited to services provided by the cooperative, and access to credit outside of LBCs basically does not exist.
- About 40 percent of members could come close to articulating elements of the goals and purpose of Fairtrade. Responses such as “gift from cooperative or NGOs” and “tax rebate” were common among the households. Additionally, 43.5 percent of cooperative members claimed they took part in decision making about how the Premium is used. Given the overall difficulty of communication in rural Ghana and the short period of engagement with Fairtrade and the cooperative unions, this data is encouraging. More effort will be needed to improve awareness of what Fairtrade means and how it operates.

Summary: social capital held by cocoa farming households

Table 45 presents an overall assessment of the social capital of cocoa-farming households and the justification of the assessment.

TABLE 45. SUMMARY: SOCIAL CAPITAL ENDOWMENT (FARMING HOUSEHOLDS)

Indicator	General assessment of current situation*	Justification of assessment
Knowledge of Fairtrade and Fairtrade Premium	Yellow	About 40 percent of members could come close to articulating elements of the goals and purpose of Fairtrade. More effort will be needed to improve awareness of what Fairtrade means and how it operates.
Respondents' perception of trust	Yellow	There is a high level of trust in cooperative management. Members trust LBCs to whom they sell, but they do not trust LBCs in general. About 30 percent of cooperative members have either neutral opinions or do not trust Fairtrade.

*Green = overall clear positive situation for cooperative development; Yellow = overall situation provides reasons to be optimistic, but a few critical issues need to be addressed; Red = overall situation is not favourable to the development of viable cooperative unions

5.6 Shocks, resilience and vulnerability

An important factor to understand about rural livelihoods is how vulnerable farmers are to shocks and their ability to withstand them. Shocks, resilience and vulnerability were assessed by asking respondents whether they sell part of their assets to meet urgent family needs (fig 40). Other questions were focused on the emergence of pests and diseases and how they responded to it. Results show that most respondents did not sell assets to meet urgent needs; however, about 30 percent sometimes or most of the time sold livestock to meet their children's educational needs (fig 41).

Respondents were also asked to identify the major problems they had on their cocoa plantations in 2013, including the greatest pest and disease problems (fig 42). The black pod¹³ disease was cited most, followed by the

swollen shoot disease¹⁴—two diseases that are common to cocoa production in Ghana. Incidences of the black pod diseases were reported by members (21 percent) and non-members (47 percent). Chemical application was reported by members (85 percent) and non-members (91 percent) as

a mealy bug. The disease is described as one of the single most important threats to Ghanaian cocoa. The basic method of controlling the virus is by completely eradicating sources of infection (Bahh and Anchirinah 2011).

- 14 The swollen shoot disease is caused by a virus transmitted by a mealy bug. The disease is described as one of the single most important threats to Ghanaian cocoa. The basic method of controlling the virus is by completely eradicating sources of infection (Bahh and Anchirinah 2011).

13 The swollen shoot disease is caused by a virus transmitted by

responses to many major problems that they encountered on their farms, including the black pod disease.

About nine percent of members and 25 percent of non-members cited the swollen shoot disease as the most

important problem recorded on their farms in 2013. Both members and non-members also ranked the severity of the problems in cocoa production that year (fig 43).

FIGURE 40. FARMING HOUSEHOLDS THAT REPORTED HAVING SOLD MAJOR ASSET TO MEET URGENT NEED (MEMBERS AND NON-MEMBERS)

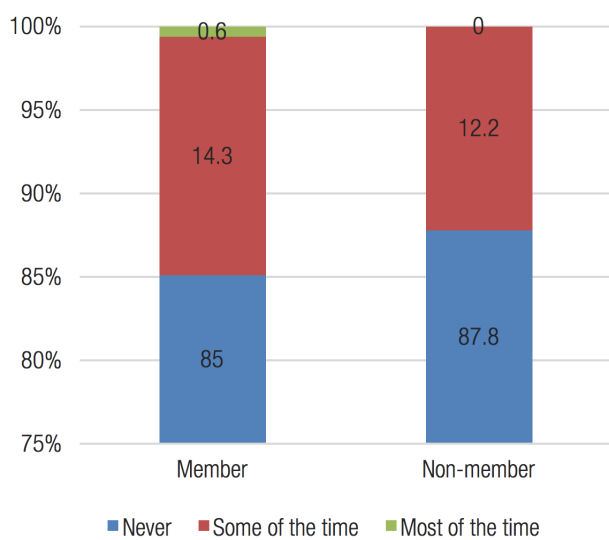


FIGURE 41. FARMING HOUSEHOLDS THAT REPORTED HAVING TO SELL LIVESTOCK TO MEET CHILDREN'S EDUCATIONAL EXPENSES

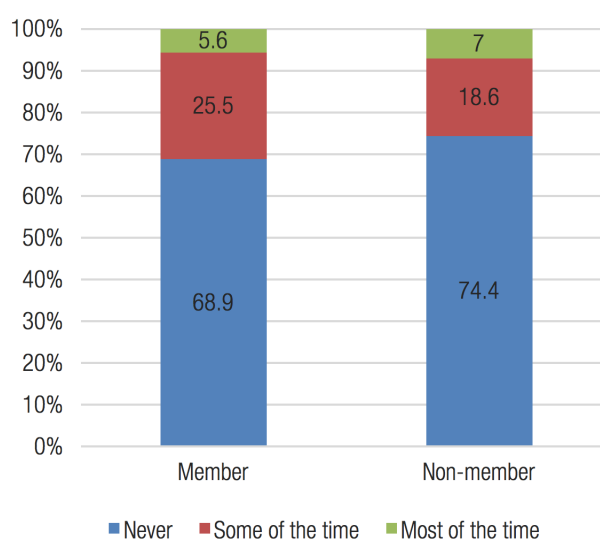


FIGURE 42. PERCENTAGE OF MEMBERS AND NON-MEMBERS WHO REPORTED DIFFERENT PROBLEMS WITH COCOA PRODUCTION IN 2013

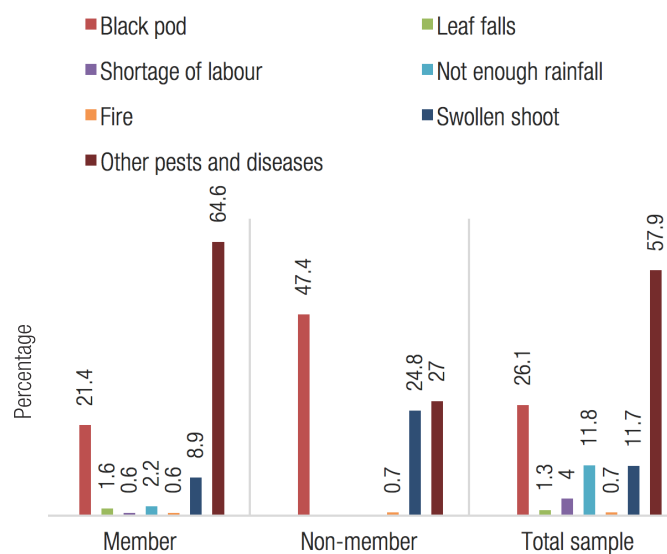
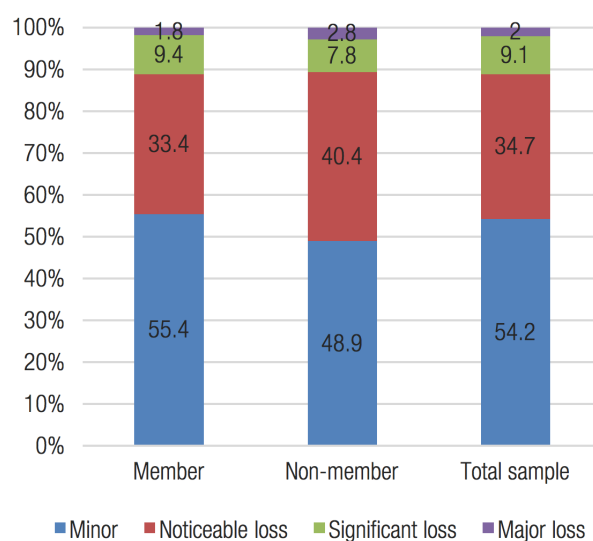


FIGURE 43. REPORTED SEVERITY OF PROBLEMS IN COCOA PRODUCTION IN 2013 (MEMBERS AND NON-MEMBERS)



Summary: shocks, resilience and vulnerability of cocoa farming households

Table 46 presents an overall assessment of the shocks and resilience of cocoa-farming households and the justification of the assessment.

TABLE 46. SUMMARY: SHOCKS, RESILIENCES AND VULNERABILITY (FARMING HOUSEHOLDS)

Indicator	General assessment of current situation*	Justification of assessment
Sales of assets or mobilizing support	Yellow	Only about 30 percent of farmers sometimes sell assets to meet urgent farm and family needs.
Capacity to respond to cocoa pests and diseases	Yellow	Black pod disease is the most commonly cited disease—about half (26 percent) of the sampled households. Most of the farm problems were described to be minor by 54 percent of the households. However, the other 46 percent identified noticeable to major damage to crops by pests and diseases.

* Green = overall clear positive situation for cooperative development; Yellow = overall situation provides reasons to be optimistic, but a few critical issues need to be addressed; Red = overall situation is not favourable to the development of viable cooperative unions

6

TAKING STOCK

6.1 Summary of findings

Our analysis provides reason for some optimism on the outlook for the expansion of Fairtrade cocoa in Ghana, though caution as well. The cooperatives have taken the first steps to building a viable business. They have forged commercial relationships with LBCs and, through them, linkages with international cocoa buyers, in addition to partnerships with Fairtrade and other organizations providing technical and complementary assistance. They have also developed procedures to ensure compliance with government regulations and Fairtrade Standards (for example, environmental and child labour policies). At the same time, many cooperatives depend on a small number of service providers whose offer is limited in both coverage and scope. Internally, cooperatives are challenged by weak governance structures, limited human and financial resources, and poor infrastructure and logistics. While these weaknesses can be considered typical of cooperatives in the early stages of development, they also suggest a need for focused attention on monitoring progress and searching for options that offer reduced cost, risk and length of the development process.

It is therefore critical for cooperatives and their members to define, along with Fairtrade and other service providers, whether future efforts should aim at building cooperatives' capacity to engage as licensed cocoa buyers with an integrated service offer or to keep investments low and aim at building agile organizations that limit their engagement to facilitating links with buyers, Fairtrade, NGOs and other supporters. Experiences in Ghana and elsewhere show that building integrated-service cooperatives that are commercially viable requires considerable resources and time—often decades rather than years. The alternative model is the promotion of cooperatives with a light structure and limited service offer, supported by the unique institutional setup of Ghana's cocoa sector. The prominent role of LBCs as intermediary between COCOBOD and the cooperatives does not require cooperatives to engage in purchasing, processing and trading of cocoa. Most can thus afford relatively simple internal structures; external

support can focus on building cooperative capacity to manage relationships with buyers, service providers and Fairtrade—all this at low costs for both members and external service providers.

Given the advantages and disadvantages of the two cooperative models, it is likely that a dual structure will emerge, with a limited number of strong cooperatives offering integrated services on the one hand and a larger number of simple-structured cooperatives on the other. Irrespective of the cooperative model, a stronger coordination between COCOBOD, Fairtrade and other service providers is needed since both larger and smaller cooperatives require a complementary service offer and would benefit from coordinated service delivery and pooled investments among external service providers. The performance of the cooperatives and their capacity to support their members would further benefit from innovative approaches to monitoring, evaluation and learning. Such approaches would foster joint reflection among cooperative leaders, Fairtrade and other NGO staff, and local government representatives on cooperative development strategies and their outcomes. The baseline resulting from this study lays the foundation for ongoing monitoring of key indicators and future impact assessments; the resulting findings can feed into a process of joint learning and continuous improvement.

On a broader perspective, both COCOBOD and large cocoa buyers have a strong role to play if Ghana's cocoa sector is to become sustainable over the next years. In addition to providing enabling conditions for the production of quality cocoa, COCOBOD could benefit from intensified dialogue and collaboration with voluntary standards systems, including Fairtrade. Global chocolate manufacturers, in turn, have the opportunity to increase their purchases of Fairtrade-certified cocoa. This would directly support closing the Fairtrade gap—the difference between the volume of Fairtrade-certified cocoa produced and the volume effectively sold under Fairtrade terms—and

a strong signal underscoring manufacturers' commitment to a sustainable cocoa sector. A national cocoa roundtable involving stakeholders from the public and private sectors and civil society would facilitate cross-sector coordination and collaboration towards this end.

At the household level, the baseline suggests that growers have benefited from Fairtrade certification through dividends paid from the Fairtrade Premium and through access to essential services (e.g. technical assistance). The monetary contribution of the Fairtrade Premium relative to total household income, ranging from one to three percent, is modest at best. Increasing this contribution to levels that cocoa growers would consider significant requires a two-prong approach: (1) increasing productivity to levels similar to or higher than those in neighbouring Côte d'Ivoire and (2) ensuring that most, if not all, of the Fairtrade-certified cocoa volume is sold under Fairtrade terms. The households, in general, face an uphill march to intensify their cocoa production: most are highly constrained in resources, few have access to credit, and when credit is available, it is too small to allow for strategic investments in cocoa production. In addition, overall access to technical services is limited and capacity to purchase basic inputs for cocoa production

(e.g. fertilizers) remains low. The baseline has revealed several areas for future research and intervention at the household level:

- strengthening the role of women and young people in cocoa production and their capacity to influence decisions in cocoa-related investments and to receive benefits from cocoa-related activities;
- livelihoods development through targeted support for income-generating activities in addition to cocoa, such as non-farm enterprise development and production of high-value agrifood products for local and other markets;
- better understanding of cocoa growers' demand for technical, business and financial services and engagement with local service providers to link this demand with their supply of services through innovative arrangements to share costs, benefits and risks;
- relationship between use of farming inputs and control of major pests and diseases in cocoa production to optimize costs and benefits of pest and disease management.

Fairtrade as a catalyst for change

Fairtrade alone will not bring about the changes that significantly improve conditions for cocoa-farming households and cooperatives in Ghana, but it can make an important contribution. It has a stable presence in the region that few projects or NGOs have. Its interest in the welfare of farmers, as well as the cocoa business, provides Fairtrade with a unique standing among buyers, government agencies and NGOs. Active engagement by Fairtrade with those providing technical, business and financial services for a coordinated and complementary service offer to cooperatives and farmers can make the difference.

6.2 Reflection on baseline design

Based on experiences in Ghana, we are able to offer the following recommendations for future baseline initiatives by Fairtrade:

- fewer indicators, but deeper coverage of each indicator, with context-specific guidance for operationalization—see table 47 for an assessment of the indicators used on this baseline according to their ease of measurement and capacity to provide useful insights into business viability (in the case of cooperatives) and livelihood security (in the case of farming households) for Fairtrade and its partners;
- expert consultation for identification of useful proxies for unobservable elements of cocoa production (e.g. soil fertility);
- strategic approach to information collection, based on (1) ongoing monitoring of critical and easy-to-measure indicators, (2) periodic assessment of critical but difficult-to-measure indicators and (3) in-depth studies on a case-by-case basis;
- understanding of potential inaccuracies in data to enable, where possible, corrections to be made (e.g. farm size reported by farmers);
- stakeholder engagement in baseline design and setting up a system for joint monitoring, evaluation and learning (M&EL), including definition of indicators, development of data collection plans and agreements on how to address possible data inaccuracies.

6.3 Suggested next steps

The baseline provides a starting point for designing interventions that guide the expansion of Fairtrade cocoa in Ghana. Dedicated follow-up with local stakeholders and external facilitators will enable full capture of the benefits of investments so far. We recommend the following next activities for Fairtrade and its local partners in Ghana:

- validate baseline findings with local stakeholders (cooperative leaders, LBCs, government agencies, NGOs), with a focus on the relative importance of indicators, potential information gaps for more critical indicators and recommendations for future baselines in cocoa;
- design strategy for strengthening cocoa cooperatives and farmers that addresses some of the major findings identified in the baseline, with a focus on goals that could be addressed by different stakeholders with locally available resources in the short term and longer-term goals that will require collaboration for design and funding of activities;
- build alliance for implementing the strategy with other services providers;
- design and implement innovative M&EL systems: (1) identify key performance indicators and develop strategy for operationalization; (2) plan for data collection, including partner engagement (cooperatives, farmers, others); and (3) agree on feedback loops and learning cycles for continued improvement.

TABLE 47. ASSESSMENT OF BASELINE INDICATORS AT COOPERATIVE UNION AND HOUSEHOLD LEVELS

	Less critical	More critical
Easy to measure (in terms of level of effort and precision)	<p>Cooperative unions</p> <ul style="list-style-type: none"> • Percentage of coops that consult with adults, youth, when deciding on Fairtrade Premium use (overlap) • Percent of Fairtrade production rejected by coop • Satisfaction with trading relationship with buyers (overlap) • Type of relationship with buyers (overlap) • Households • Satisfaction with prices • Knowledge of t • Satisfaction with support services • Contribution of hired labour to cocoa production 	<p>Cooperative unions</p> <ul style="list-style-type: none"> • Membership size and growth • Number of registered members disaggregated by gender, age • Volume/value cocoa sold • Services provided to members • Nature/strength of buyer relations • Infrastructure owned/rented • Tool and equipment • Credit from banks and other sources • Activities carried out in the chain • Management perceptions of benefits associated with Fairtrade <p>Households</p> <ul style="list-style-type: none"> • Tools and equipment • Gross income from cocoa sales • Access to credit • Cocoa production volume • Understanding of decision making around Premium use

	Less critical	More critical
Difficult to measure (ditto)	<p>Cooperative unions</p> <ul style="list-style-type: none"> • Trainings provided to members <p>Households</p> <ul style="list-style-type: none"> • Children of cooperative union members attending school • Production practices 	<p>Cooperative unions</p> <ul style="list-style-type: none"> • Business administration capacity • Updated strategic plan that guides decision making • Percent of female board, committee, general assembly members • Assessment of relations with cooperative union members • Nature and strength of relations with NGOs, government agencies • Gross revenue, net revenue • Member participation in decision making • Mechanisms for sharing information with members • Implementation of child labour policy • Funds invested in community development • Number of members receiving training services <p>Farming households</p> <ul style="list-style-type: none"> • Income from other sources • Sales of assets • Investments in housing, on-farm production, education • Land ownership, tenure arrangements • Area under production • Area dedicated to cocoa • Average cocoa plantation age • Fertilizer application • Capacity to respond to cocoa pests and diseases • Contribution of household members to cocoa production • Use of protective equipment

REFERENCES

- Akua K, Osekere EA, Adu-Acheampong R, Ninsin KD. 2015. Insecticide use practices in cocoa production in four regions in Ghana. *West African Journal of Applied Ecology*. 23 (1): 39–48.
- Asante-Poku A, Angelucci F. 2013. Analysis of incentives and disincentives for cocoa in Ghana. Technical note series, Monitoring African Food and Agricultural Policies projects, Rome: FAO. p. 35.
- Asare R, 2013. Understanding and defining climate-smart cocoa: extension, inputs, yields and farming practices. Accra, Ghana: NCRC/Forest Trends.
- Bahh F, Anchirinah V. 2011. A review of Cocoa Research Institute of Ghana extension activities and the management of cocoa pests and diseases in Ghana. *American Journal of Social and Management sciences* 291: 196–201.
- COCOBOD. Nd. (Ghana Cocoa Board). <https://www.cocobod.gh/oursubsidiaries.php> (Accessed July 2015).
- Dawoe EK, Quashie-Sam J, Isaac ME, Oppong SK. 2012. Exploring farmers' local knowledge and perceptions of soil fertility and management in the Ashanti Region of Ghana. *Geoderma* 179–180: 96–103.
- Donovan J, Poole N. 2014. Changing asset endowments and smallholder participation in higher value markets: evidence from certified coffee producers in Nicaragua. *Food Policy* 44: 1–13.
- Fairtrade Foundation. 2011. Fairtrade Foundation Commodity Briefing: Cocoa. London: Fairtrade Foundation.
- Fairtrade International. In press. Baseline for assessing the impact of Fairtrade certification of cocoa growers and cooperatives in Côte d'Ivoire.
- Fairtrade International. 2015. Scope and benefits of Fairtrade. 7th ed. http://www.fairtrade.net/fileadmin/user_upload/content/2009/resources/2015-Monitoring_and_Impact_Report_web.pdf.
- Fairtrade International 2014. Fairtrade Cocoa in West Africa. London: Fairtrade International.
- Fairtrade International/Fairtrade Africa. 2013. Fairtrade Cocoa in West Africa. http://www.fairtrade.net/fileadmin/user_upload/content/2009/resources/Fairtrade-cocoa-WestAfrica-report_2014.pdf.
- FAO (Food and Agriculture Organization of the United Nations). 2013. www.fao.org/fileadmin/templates/mafap/documents/technical_notes/GHANA/GHANA_Technical_Note_COCOA_EN_Apr2013.pdf.
- FAO. 2005. Fertilizer use by crop in Ghana. Rome: FAO. p. 53.
- GAIN. 2012. Global Agricultural Information network. Ghana Cocoa Report Annual. Gain Report Number: GH1202. Agricultural Affairs Office (USDA/FAS).
- Garming H, Guardia S, Pocasangre L, Staver C. 2011. Farmers' community enterprise for marketing organic bananas from Alto Beni, Bolivia: impacts and threats. *Enterprise Development and Microfinance* 22 (3): 210–224.
- Ghana Statistical Service, <http://www.statsghana.gov.gh/>. cited in Ahiakpor F, Swaray R. 2015). Parental expectations and school enrolment decisions: evidence from rural Ghana. *Review of Development Economics* 19: 132–142.
- Glin LC, Oosterveer P, Mol APJ. 2015. Governing the organic cocoa network from Ghana: towards hybrid governance arrangements. *Journal of Agrarian Change* 15 (1): 43–64.
- Hainmuller J, Hiscox M; Tampe M. 2011. Sustainable development for cocoa farmers in Ghana. Working paper, London: International Growth Centre, London.

- ICCO. 2016. Quarterly Bulletin of Cocoa Statistics, Vol. XLII, No. 1, Cocoa year 2015/16. <https://www.icco.org/about-us/icco-news/303-february-2016-quarterly-bulletin-of-cocoa-statistics.html>.
- Karlton E, Lemenih M, Tolera, M. 2013. Comparing farmers' perception of soil fertility change with soil properties and crop performance in Beseku, Ethiopia. *Land Degradation and Development*: 24 (3): 288–235.
- Katerberg L, Khan A, Ruddick S. 2011. Evaluating value chain impact using a sustainable livelihoods approach: a case study on horticulture in Afghanistan. *Enterprise Development and Microfinance* 22 (3): 225–240.
- Keraiya B, Jensen PKM, Konradsen F, Akple M, Rheinlander T. 2013. Accelerating uptake of household latrines in rural communities in the Volta Region of Ghana. *Journal of Water, Sanitation and Hygiene for Development* 1 (1): 26–34.
- Kolavalli S, Vigneri M. 2011. Cocoa in Ghana: shaping the success of an economy. In: Chunana-Pole, W. Angwafo ed. 2011. *Yes Africa can: success stories from a dynamic continent*. Washington, D.C., World Bank.
- KPMG (2012) Cocoa certification: study on the costs, advantages and disadvantages of cocoa certification. Commissioned by the International Cocoa Organization. Netherlands. http://www.icco.org/about-us/international-cocoa-agreements/cat_view/30-related-documents/37-fair-trade-organic-cocoa.html
- Laven A, Boomsma M. 2012. Incentives for sustainable cocoa production in Ghana. Amsterdam: Royal Tropical Institute. p. 49.
- Mahrizal L, Nalleye L, Dixon BL, Popp JS. 2013. An optimal phased replanting approach for cocoa trees with application to Ghana. *Agricultural Economics* 45 (2013) 1–12.
- Mohammed D, Asamoah D, Asiedu-Appiah F. 2011. Cocoa value chain—implication for the smallholder farmer in Ghana. Kumasi, Ghana; Department of Information Systems and Decision Sciences, School of Business, Kwame Nkrumah University of Science and Technology.
- Moser, C. 2006. Asset-based approaches to poverty reduction in a globalized context: an introduction to asset accumulation policy and summary of workshop findings. The Brookings Institution, Washington, DC.
- Nelson V, Opoku K, Martin A, Bugri J, Posthumus H. 2013. Assessing the poverty impact of sustainability standards: Fairtrade in Ghanaian cocoa. Greenwich, UK: Natural Resources Institute.
- Nunoo I, Frimpong N, Kwabena-Frimpong F, Nkrumah K. 2014. Fertilizer use among cocoa farmers in Ghana: the case of Sefwi Wiawso District. *International Journal of Environment* 3 (1): 22–31.
- Opong. F. 2015 Ghana efforts at sustaining cocoa production. Cocoa Market Outlook Conference. https://www.icco.org/about-us/international-cocoa-agreements/cat_view/252-cocoa-market-outlook-conference-september-2015/253-presentations-cocoa-market-outlook-conference-2015.html.
- Potts J, Lynch M, Wilkings A, Huppé G, Cunningham M, Voora V. 2014. The state of sustainability initiatives review 2014: standards and the green economy. Winnipeg, Canada: International Institute for Sustainable Development.
- Ruf, FO. 2011. The myth of complex cocoa agroforest: the case of Ghana. *Human Ecology* 39: 373–388.
- Salifu A, Francesconi GN, Kolavalli, S. 2010. A review of collective action in rural Ghana. IFPRI discussion paper no. 00998. Washington, DC: International Food Policy Research Institute.
- Sheck R, Donovan J, Stoian D. eds. 2013. Assessing impacts of value chain development on poverty: a case-study companion to the 5Capitals tool. Technical Series 69, Rural Enterprise Development Collection 8, Turrialba, Costa Rica: CATIE/ICRAF/ Bioversity International.
- Stoian D, Donovan, J. 2006. Fortalecimiento de la gestión empresarial de comunidades forestales en Guatemala y Nicaragua: Programa de Capacitación y Asistencia Técnica basado en un diagnóstico empresarial. Report prepared for Rainforest Alliance/USAID, Guatemala City.
- UNESCO, International Bureau of Education. 2011. World Data on Education 2010/2011: Ghana. 7th edition. http://www.ibe.unesco.org/fileadmin/user_upload/Publications/WDE/2010/pdf-versions/Ghana.pdf.
- Vigneri M, Santos P. 2007. Ghana and the cocoa-marketing dilemma: what has liberalization without price competition achieved? ODI Project Briefing, no. 3. London: Overseas Development Institute.
- Wessel M, Quist-Wessel PMF. 2015. Cocoa production in West Africa: a review and analysis of recent development. *NJAS-Wageningen Journal of Life Sciences* 74–75 (2015): 1–7.
- World Bank.Nd. <http://data.worldbank.org/indicator/FP.CPI.TOTL.ZG/countries/GH?display=graph>

Appendix 1. Examples of Fairtrade development plans (Coop2 and Coop3)

Coop2 (2014)

Action	Objective	Expected completion date	Responsible entity	Resources (USD)		
				Premium budget	Other sources	Total
Set aside 10 percent of the Premium for union administration	Strengthen cooperative union management; implement monitoring system that evaluates members' performance against environmental and child labour policies	May 2015	Union executives	40 000	0	40 000
Set aside six percent of the Premium for annual audit certification fee/FTA dues	Enable the union to pay the annual audit certification fee	November 2014	Union executives; Premium Committee	24 000	0	24 000
Set aside 11.25 percent of the Premium to purchase a pickup for the union	Enable the union to effectively manage the primary societies through regular trainings and visits	July 2014	Union executives; Premium Committee	45 000	0	45 000
Set aside 10 percent of the Premium for governance training	Enable the union to pay the annual audit certification fee	May 2015	Union executives; Premium Committee	40 000	0	40 000
Give 33.3 percent of the Premium to members as bonus to carry out other farm operational costs	Increase cocoa production; empower society members for effective farm management	July 2014	Union executives; Premium Committee	133 332	0	133 332
Set aside 10 percent of the Premium for community development	Meet the development needs of associated communities	May 2015	Union executives; Premium Committee	40 000	0	40 000
Set aside 15 percent of the Premium to purchase agrochemicals	Increase cocoa productivity; acquire approved agrochemicals at affordable price and at the right time	July 2014	Union executives; Premium Committee; Environmental Committee	60 000	0	60 000
Set aside 4.42 percent of the Premium to run inputs shop for members	Supply approved agrochemicals for members at affordable and competitive prices	May 2015	Union executives ads Premium Committee; Environmental Committee	17 680	0	17 680

Coop3, 2014/2015 season*

Action	Objectives	Expected completion date	Responsible person(s)	Percent of Premium budgeted	Total (USD)
1. Provide funds for administrative support	Pay workers salary, equip the office, donations and other administrative expenses	2014/2015	H. Duke, D. Appiah, J. Asaaseba	7	9 295.16
2. Providing funds for training	Enhance members' capacity on Fairtrade Standard and to build strong cooperative system. e.g. democratic and Transparent Governance, Environmental and Social Practice like Child labour, Good Agricultural practices	2014/2015	H. Duke, D. Appiah, J. Asaaseba	5	6 639.40
3. Providing funds for certification fee	Enable the cooperative pay for the Year 4 Fairtrade Audit fee	2013/2014	H. Duke, J. Asaaseba	6	8 033.67
4. Providing funds to pay bonuses (Premium) to members	Share bonuses to members fairly to enable them increase productivity and to be able to purchase farm inputs, pay toward school fees and labour cost	Aug 2014	H. Duke, D. Appiah, B. Philip	75	99 591.00
5. Provide funds to service loan owed to Aramark Ghana Ltd	Make partial payment of loan due to Armajaro Ghana for cost incurred in forming the union	Aug 2014	H. Duke, D. Appiah, B. Philip	4.6	6 041.85
6. Provide funds for community development project	Sink a borehole in one of the communities to ease its water problem, provide good drinking water and prevent waterborne-related diseases	October 2014	H. Duke, D. Appiah, B. Philip	2.4	3 186.91
TOTAL					132 788

*Premium budget amount was USD 132 788 for 664 tonnes of cocoa produced (664 x USD 200)



World Agroforestry Centre is a
member of the CGIAR Consortium

World Agroforestry Centre, United Nations Avenue, Gigiri,
P. O. Box 30677-00100, Nairobi, Kenya.
Phone + (254) 20 722 4000, Fax + (254) 20 722 4001,
Via USA phone (1-650) 833-6645,
Via USA fax (1-650) 833-6646,
Email: worldagroforestry@cgiar.org
Website: www.worldagroforestry.org