In or out?: Exploring selection processes of farmers in cocoa sustainability standards and certification programmes in Ghana

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Thesis submitted for the degree of Doctor of Philosophy

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Submitted December 2018

Abstract

The sustainability of the global cocoa sector is currently being tested by acute deforestation, rampant poverty among cocoa farmers and fears of future cocoa supply shortages. Cocoa Sustainability Standards and their subsequent Certifications (SSC) are seen as a win-win solution to these challenges for both farmers and the industry. Nevertheless, questions regarding who is able to participate and potentially benefit from such interventions and, just as importantly, who is not, remain under-researched. Taking Ghana, the world's second-largest producer of certified cocoa, as a case study, this thesis draws on actor and network approaches (Long, 1989; Latour, 1987), theory-based evaluation (Weiss, 1997; Pawson and Tilley, 2004) and the Sustainable Rural Livelihoods framework (Scoones, 1998) to unpack selection processes. It uses primary qualitative data from industry informants and farmers from the Brong Ahafo region, as well as national level secondary quantitative survey data to understand how farmers are externally selected, through programme placement and participant targeting, and self-selected into SSC programmes.

Findings suggest that SSC placement is business-oriented when programmes are driven by SSC implementing actors, with farmer-centered criteria gaining influence when funding and certifying actors are involved. In terms of targeting, farmers lacking land entitlements, like sharecroppers and their wives, tend to be left out of SSC related activities and the distribution of benefits, even when producing certified cocoa. Further, farmers' dependence on credit determines their selling strategies and therefore their self-selection in or out of SSC programmes, when participation is conditional on selling to a particular buyer. In the absence of selling conditionality, selection is shaped by the farmers' ability and willingness to adopt the standards.

Overall, better-off farmers are more likely to participate in SSC programmes, while landless, credit-dependent and isolated farmers tend to be left out, suggesting that if SSC are to advance the interests of both farmers and industry, issues of inclusiveness need to be addressed both at the policy and implementation level.

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AME	Average Marginal Effects
ANT	Actor-Network Theory
ATO	Alternative Trading Organisation
CA	Content analysis
CCP	Cadbury Cocoa Partnership
COCOBOD	Ghana Cocoa Board
CSAE	Centre for the Study of African Economies
CSR	Corporate Social Responsibility
DD	Difference-in-Difference
DS	Descriptive statistics
FLO	Fairtrade Labelling Organisation
FOB	Free On Board
GAP	Good Agricultural Practices
GCFS	Ghana Cocoa Farmers Survey
GHS	Ghanaian Cedis
GLSS	Ghana Living Standards Survey
IMF	International Monetary Fund
IV	Instrumental Variable
JHS	Junior High School
LBC	Licensed Buying Company
MT	Metric Tonnes
PBC	Produce Buying Company
PC	Purchasing Clerk
PCU	Project Co-ordination Unit
PO	Producers' Organisation
PSM	Propensity Score Matching
RCT	Randomised Controlled Trial
SRL	Sustainable Rural Livelihoods

SSC	Sustainability Standards and their subsequent Certifications
TA	Thematic analysis
WB	World Bank
WMW	Wilcoxon-Mann-Whitney

Acknowledgements

I am deeply indebted to my supervisors, Dr. Maren Duvendack and Prof. Nitya Rao, for their constant support, flexibility and patience, and their insightful and constructive feedback. They believed I could complete this study even when I was losing faith and for this, I am extremely grateful. Special thanks go to Dr. Richard Palmer−Jones who was part of the supervisory team during the first year of my Ph.D. and whose sharp observations and suggestions shaped the foundations of this study. Other special thanks to Dr. Christine Okali for providing encouragement, practical guidance, and great discussions. Her passion for studying Ghana's cocoa sector has been a great source of inspiration to me. My gratitude also goes to the School of International Development for providing the funding which enabled me to realise this study.

Outside academia, I am much obliged to Jens Soth from Helvetas for providing the first contacts in Ghana which kick-started my fieldwork. The same goes for Gladys Nketiah who accompanied me to the cocoa fields and helped me in all my interactions with the cocoa farmers. She has contributed enormously to this study and I truly wish we can work together again someday. In Goaso, my deep appreciation goes to Nana Sarpong, president of Asunafo North Co-operative Cocoa Farmers and Marketing Union who facilitated access to cocoa growing communities in the area. Last but not least, I am greatly indebted to all the research participants who trusted me with their views and stories. I hope this thesis does them justice. Fieldwork would not have been as satisfactory and fun without Silvia Abascal, who flew with me to Ghana to take care of my son while I was collecting my data. She has been the most amazing traveling companion, taking care of all of us. Many thanks go to Borja Perez Viana, Irene Perez Suarez, Sonia Martín Gutiérrez and many more in Norwich who helped me out with all sorts of things when I was there and when I was not. In Zurich, my gratitude goes to my circle of mothers for the playground time that kept me sane, and particularly to Vanesa Colsa for childcare support. Finally, tonnes of thanks and love to my mum for flying in and out during stressful deadlines to help us survive; to Marina for taking care of her little brother when I needed extra time; and to Kai for endless support and for not giving up on me.

1. Introduction

1.1. Research rationale

Recent decades have seen a significant expansion in international agricultural trade and with it a growing concern regarding the social and environmental conditions of agricultural commodity production (Byerlee and Rueda, 2015; Oya, Schaefer and Skalidou, 2018). The cocoa sector has long been susceptible to consumers' concerns regarding its social impact, particularly among a growing segment of female and wealthier consumers of 'quality' chocolate (Barrientos, 2011 & 2014; Vecchio and Annunciate, 2015). Such concerns are fuelled by rampant poverty and continuing reports of child labour in the cocoa fields (Barrientos et al., 2007; Fountain and Hütz-Adams, 2015 & 2018), forcing chocolate companies to be among the first corporations to adopt measures to deal with social issues in their value chain (Off, 2006; Schrage and Ewing, 2005). Acute deforestation, an intrinsic part of cocoa production at least in West Africa (i.e. Hill, 1963; Ruf and Zadi, 1998; Amanor, 2005; Ruf, Schroth and Doffangui, 2015; Gockowski et al., 2013; Dumont et al., 2014), is also troubling consumers caring about their environmental footprint.

Moreover, fears that the cocoa supply is at risk, or will be in the near future, have intensified over the last years. It is indicative that in 2011 Armajaro, an important cocoa trader at the time, estimated a global cocoa shortage of 0.8 million metric tonnes (MT) by 2020 (Barrientos, 2016). More and better quality cocoa beans are expected to be needed to satisfy a long-anticipated rise in chocolate consumption in the emerging BRIC (Brazil, Russia, India, and China) and MINT (Mexico, Indonesia, Nigeria and Turkey) markets, as well as an increase in the consumption of dark, premium chocolate in the European and US markets (Whitehead, 2017; Nieburg, 2014; Salter, 2014). This increase in global demand cannot be satisfied by territorial crop expansion for the following reasons. Most of the land suitable for cocoa cultivation, particularly in West Africa, is either already in use, or protected by forest reserves (Dumont et al., 2014; Wessel and Quist-Wessel, 2015). In the case of Ghana, illegal mining is currently competing with cocoa production for land and labour (Nyame and Blocher, 2010;

Snapir, Simms and Waine, 2017; Schwartz Taylor and Taylor, 2018), putting extra pressure on the available land for cocoa production. Furthermore, climate change is expected to negatively affect cocoa growing areas in sub-Saharan Africa, making some directly unsuitable, while others will need adaptation measures in order to continue producing cocoa (Läderach et al., 2013; Schroth et al., 2016). The effects of this declining trend in the availability of land can be observed in the rise of land rent and even the eruption of armed conflicts, as the case of Côte d'Ivoire demonstrates (Woods, 2003). Nevertheless, the fact that productivity levels, particularly in West Africa, remain below maximum capacity suggests that there is a margin for increasing global cocoa production by obtaining higher yields per hectare instead of territorial expansion (Wessel and Quist-Wessel, 2015). In the case of Ghana, for instance, it is estimated that the average farmer produces only 40 percent of the potential output (Barrientos, 2014). Low productivity is attributed to poor farm maintenance, lack of innovation and farm renovation investments and low uptake of fertilisers and pesticides (Kolavalli and Vigneri, 2011; Dormon et al., 2004; Gockowski et al., 2013). An ageing population of cocoa farms and farmers are also often blamed for the low productivity of the region (Anyidoho et al., 2012; Mohammed, Asamoah and Asiedu-Appiah, 2011; Kyei, Foli and Ankoh, 2011; Löwe, 2017; Barrientos et al., 2007).

Cocoa Sustainability Standards and their subsequent Certifications (hereafter SSC), such as Fairtrade, UTZ and Rainforest Alliance, offer price and material incentives to producers (e.g. price and social premium, provisions of fertilisers on credit, free farming tools and equipment, etc.) in exchange for adopting specific production standards meant to increase productivity and hence cocoa income, but also to improve the environmental and social production conditions of the crop. They are seen, therefore, as a win-win solution that can benefit both the farmers involved in cocoa production and the cocoa and chocolate industry. Amid a broader tendency of SSC to cross to mainstream markets (Potts et al., 2014; Paschall, 2013; COSA, 2013), cocoa and chocolate companies are currently leading in the use of SSC in the confectionery market (Yu, 2017). More than a million MT of certified cocoa (including organic) was produced in 2015 by more than 916,000 producers worldwide, accounting for 23% of the global cocoa area (Lernoud et al., 2017). This marks an increase of 338% in the production of certified cocoa in only

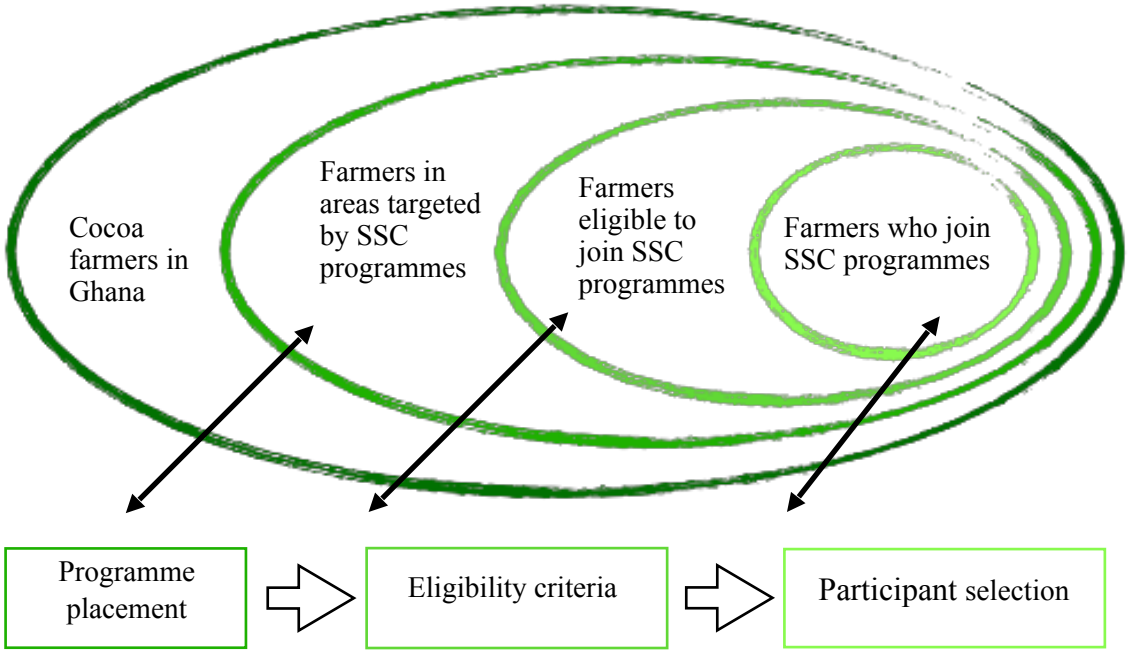
five years (Potts et al., 2014), a growing trend which is expected to continue in the years to come, as major cocoa-chocolate companies, such as Mars, Ferrero, and Hershey, have made public commitments to source exclusively certified cocoa by 2020 (Mars, 2018; Ferrerocsr, 2018; Nieburg, 2012).

This impressive growth in the use of SSC in the cocoa sector in particular, and in agricultural commodities in general, is being reflected in an increasing number of impact evaluation studies seeking to assert whether claims of positive impact on the lives of producers and workers as well as on the environment made by SSC funding, implementing and certifying actors can be supported by evidence (e.g. Oya et al., 2017; Terstappen, Hanson and McLaughlin, 2013; Blackman and Rivera, 2010). The first wave of these studies (e.g. Bacon, 2005; Jaffee, 2007; Utting-Chamorro, 2005) had several methodological limitations, mainly failure to control for confounding factors that can be potentially correlated both with SSC programme exposure and outcomes, such as land size, labour and input resources, or social networks. After systematically reviewing the literature on the effectiveness of certification schemes, Oya et al. (2017) show that after 2008 there has been a substantial increase in the number of studies using adequate methodological designs to control for confounding (e.g. Becchetti, Castriota and Michetti, 2008; Riisgaard et al., 2009; Ruben and Fort, 2012; Cramer et al., 2014a; Schuster and Maertens, 2015; Chiputwa and Qaim, 2014; Minten et al., 2015; van Rijsbergen et al., 2016).[1] Nevertheless, although more and better evidence on the impact of SSC is currently available, doubts remain regarding the ability of SSC programmes to tackle deep-rooted structural problems such as rural poverty, low productivity, gender inequality, or weak and flawed Producers' Organisations (POs) (Oya et al., 2017). Beyond the impact of SSC on participant producers and workers, even less is known regarding how participants select in or out of such initiatives, in other words, who is able to participate and therefore potentially benefit from certification and, just as importantly, who is not.

[1] For transparency purposes, it is noted that the author of this thesis is a co-author of the systematic review conducted by Oya et al. (2017). In particular, the author has contributed in the following tasks: protocol development, searching and critical appraisal of studies, data extraction, qualitative synthesis and reporting of findings.

This thesis aims to unpack selection processes in cocoa SSC programmes in the Ghanaian context. The study regards selection as a three-stage process: first, the selection of particular geographical areas of programme implementation (i.e. programme placement); second the selection of the eligible population through direct or implicit targeting and eligibility criteria; third, the selection of participants into the programme. It is important to clarify that targeting and eligibility do not equal selection into the programme, as a farmer may be targeted or eligible to join a certification programme but may not become a participant. Both targeting and eligibility, however, are pre-conditions of selection, since participants are selected from the pool of already targeted and eligible farmers, as Figure 1 illustrates.

Figure 1: Selection of cocoa farmers into SSC programmes in Ghana



Source: Author's creation.

Taking Ghana, the world's second-largest producer of certified cocoa as a case study (Lernoud et al. 2017), the thesis focuses on selection processes into the SSC programmes that are most common in cocoa production in the Ghanaian context: Fairtrade, UTZ and Rainforest Alliance. The organic certification is not covered here, as the Ghanaian production of organic cocoa is limited, accounting for less than 2.5% of the total certified production (ibid).

This introductory chapter is structured as follows. An overview of the current debates on the role of SSC in the global market is provided in section 1.2. This is followed by a focused literature review on the three stages of participant selection that guide this work: programme placement, eligibility criteria, and participant selection (section 1.3). Finally, section 1.4 provides the research aims and presents the structure of the thesis.

1.2. The role of Sustainability Standards and Certification

Sustainability standards and their subsequent certifications emerged between the late 1980s and early 2000s, amid changing global trade dynamics dominated by the globalisation process. They were driven mainly by an increase in consumers' awareness and sensitivity towards sustainability issues, as well as a growing recognition that public governance was limited in addressing sustainability concerns and that private action was needed in order to protect future global supply (Mayer and Gereffi, 2010; Barrientos, 2011; COSA, 2013; Potts et al., 2014). The pioneering Fairtrade certification first appeared in 1988 with a focus on improving "the welfare and livelihoods of small and disadvantaged producers" (COSA, 2013:10). This was the culmination of the 'fair trade' movement that emerged during the 1960s and initially operated through Alternative Trading Organisations (ATOs) buying directly from producers and selling directly to consumers through 'solidarity' or specialised retail shops (Jaffee, 2007; Murray and Raynolds, 2007). As the movement gained popularity and expanded during the 1980s, it evolved into a certification label with third-party audits exclusively conducted by the Fairtrade Labelling Organisation (FLO) which verifies that the production meets the Fairtrade "economic, social and (increasingly) environmental standards" (Paschall, 2013:7). After receiving the initial Fairtrade certification, producers are inspected on-site on an annual basis, unless their POs have been fully compliant over several years, in which case they can enter a three year inspection cycle (Vartotojai, 2019). In the case of products like cocoa, Fairtrade certifies cooperatives of small-scale farmers and sets a minimum price along with a fixed premium which is paid directly to the cooperative.

Since the first appearance of Fairtrade certified products, however, other voluntary standards-setting organisations operating through third-party certification have emerged, though each with varying priorities and approaches. Rainforest Alliance made its appearance in 1992 with a more environmental approach, focused on preserving biodiversity and natural reserves. UTZ Certified (initially UTZ Kapeh), on the other hand, emerged a decade later with a more business-oriented approach, emphasising "improved productivity" combined with "good social and environmental practices" (COSA, 2013:10). External audits against both standards are conducted annually, by independent certification bodies which can be for-profit private companies, such as IMO or non-profit organizations such as NEPCon (previously RA-Cert).[2] Both Rainforest Alliance and UTZ Certified allow the certification of farmers not necessarily organised in cooperatives or POs. In terms of economic incentives to the producers, they provide no minimum price guarantees, while the price premium is not fixed but negotiated with the final buyer and paid to the farmers' association, or directly to the farmers through a local buyer. Given these similarities between UTZ and Rainforest Alliance in particular, it is not surprising that the UTZ and Rainforest Alliance decided to merge in January 2018, although the two schemes will continue to operate in parallel until the activation of a single new program at the end of 2019 (UTZ, 2018a).

Despite these differences across the main cocoa SSC (Fairtrade and UTZ/ Rainforest Alliance), however, a closer examination of their theories of change reveals that their strategies are similar. The basic idea is that by setting standards of production practices and business behaviour and supporting producers and their organisations to adopt them through training in Good Agricultural Practices (GAP) and facilitation of inputs, production will become more efficient and yields will increase, preserving at the same time the natural resources and protecting the ones who are socially vulnerable. In the case of cocoa, this involves adopting measures against child or other forms of exploitative labour, banning certain pesticides which are hazardous for humans and the environment, and pruning and weeding cocoa farms on a more regular basis to control for pests and diseases. An example would be taking more systematic care of mistletoe, a

[2] For more information see Ecolabelindex (http://www.ecolabelindex.com/ecolabel/imo-certified) and NEPCon (https://www.nepcon.org/newsroom/two-leading-providers-sustainability-certification-services-nepcon-and-ra-cert-join-forces)

parasite plant that can reduce cocoa yields and ultimately harm the cocoa tree (Philips, 1977). The adoption of standards is complemented by building the markets that will reward these changes with price incentives. Creating networks and alliances while also working to influence a sector's agenda and policies is another element that these theories of change have in common. The main underlying assumption, therefore, is that by increasing production yields and prices, while also caring for the environmental and social aspects of production, the livelihoods of producers will improve (See Fairtrade International, 2019; UTZ, 2017a; SAN & Rainforest Alliance, 2015 for the theories of change of each scheme).

Overall, these theories of change describe the "hypothesized causal links" between the mechanisms of certification related interventions and "anticipated outcomes", in other words they provide a 'programme' theory (Blamey and Mackenzie, 2007:445). It is important to note, however, that they only briefly and incidentally refer to contextual factors that can enhance or hinder the effectiveness of such interventions, despite the fact that context is a crucial component of the interplay between intervention mechanisms and outcomes (Greenhalgh et al., 2009; White, 2009) and plays a particularly decisive role in the case of SSC (Oya et al., 2017). Moreover, what is missing in all three cases, is what has been described as 'implementation' theory, i.e. a theory about how specific programme objectives are translated into "ongoing service delivery and programme operation" (Weiss, 1995:58, cited in Blamey and Mackenzie , 2007:445). In the case of SSC that would be an implicit or explicit theory about who should be targeted (i.e. which groups of individuals involved in certified crop production should be trained and receive support and price incentives) and how (e.g. how should programme placement decisions be taken, what staffing levels and characteristics are needed to deliver effective support to producers and their organisations, etc.). An overview of the main cocoa SSC and their key characteristics is provided in Table 1.

Table 1: Key characteristics of the main cocoa SSC

	Fairtrade	Rainforest Alliance	UTZ Certified
Origin	Social movement/ NGO	Social movement/ NGO	Firm
Stated vision according to theory of change	A world in which all small producers and workers can enjoy secure and sustainable livelihoods, fulfil their potential and decide on their future.	Sustainable resilient landscapes that: -conserve native biodiversity and ecosystem services - produce crops/ livestock efficiently & profitably - Equitably improve local livelihoods - are managed to adapt effectively to changing conditions	Create a world where sustainable farming is the norm: farmers implement good agricultural practices and manage their farms profitably with respect for people and planet; industry invests in and rewards sustainable production, and consumers can enjoy and trust the products they buy.
Target groups	Primarily small farmers organized in cooperatives and workers organised in unions.	Large and medium-sized, organised or not	Producers of all sizes, organised or not
Certification body	FLO-Cert	Private for-profit companies and non-profit organisations	Private for-profit companies
Certificate holder	Certificate is hold by the farmers' association or the company that employs hired workers	Certificate is hold by the PO/ cooperative or the local buyer.	Certificate is hold by the PO/ cooperative or the local buyer.
Price mechanisms	Minimum price guaranteed and a fixed premium paid directly to the cooperative.	No minimum price guaranteed. Premium is not fixed but negotiated with the final buyer and paid to the certificate holder	No minimum price guaranteed. Premium is not fixed but negotiated with the final buyer and paid to the certificate holder

Source: Author's creation based on Von Hagen, Manning and Reinecke (2010); Fairtrade International, (2018a);Fairtrade International, (2019); UTZ (2018f); UTZ (2017a); Rainforest Alliance (2018a); SAN & Rainforest Alliance (2015); author's primary data.

Although initially confined only to specialty niche markets, SSC have crossed into mainstream markets during the last decade (COSA, 2013; Lernoud et al., 2017). Today, SSC are used by some of the largest multinational companies as a tool of "market recognition" (Potts et al., 2014:19) to support market claims that "products and

materials traded in complex, global supply chains have been produced in an ethical and environmentally benign way" (Petrokofsky and Jennings, 2018:2). Lernoud et al. (2017:3) further argue that the use of SSC increases the transparency in the value chain, allowing consumers to be better informed on the origin and the production conditions of the final products they purchase and helping companies to manage "reputational risks" and safeguard their corporate image. SSC are also being used as a supply risk management tool to avoid resource shortfalls, mainly through yields improvements, while also ensuring that the social and environmental conditions necessary to maintain (and increase) supply are in place (Lernoud et al. 2017; Potts et al. 2014).

Regarding the benefits resulting on the production side of the value chain, SSC are commonly regarded as "an avenue for improving the environment and reducing poverty levels among agricultural producers" by introducing more resource-efficient and environmentally friendly farming practices that can lead to yield improvements and lower environmental and health risks; improving product quality that can facilitate better access to markets and higher prices; and encouraging just social relations that can contribute to safer working conditions, non-discrimination and freedom to associate (COSA, 2013:11). Nevertheless, whether these intended goals are actually met or not remains highly contested (Dragusanu, Giovannucci, and Nunn, 2014; Oya et al., 2017). Arguments on what SSC can or cannot do diverge among scholars who examined the issue using microeconomics models and theories (e.g. Henderson, 2008; Smith, 2009; Haight and Henderson, 2010; de Janvry, McIntosh and Sadoulet, 2012; Tedeschi & Carlson, 2013; Griffiths, 2014; Giovannucci and Ponte, 2005) or impact evaluation methods (Cepeda et al., 2013; Dragusanu and Nunn, 2014; Stathers and Gathuthi, 2013; Beuchelt, Zeller and Oberthur, 2009; Nelson and Martin, 2013; Sen, 2009, among others). In an effort to provide an overall assessment of the impact of SSC, several reviews of the existing literature have emerged over the last decade (International Trade Centre, 2011; Blackman and Rivera, 2010; Nelson and Pound, 2009; Vagneron and Roquigny, 2010; Terstappen, Hanson and McLaughlin, 2013; Oya et al., 2017; Petrokofsky and Jennings, 2018). These reviews vary considerably in their methods and quality, however, it is safe to say that the overall picture they provide is at best one of mixed effects of SSC on producers and workers involved in certified production.

Although further discussing the SSC effectiveness debate is beyond the scope of this work, the following points are relevant to selection issues that guide this research and therefore worth highlighting. First, as SSC move into the mainstream, they tend to become increasingly market-driven (Paschall, 2013). This contrasts with the early years of SSC, where governmental and aid actors (i.e. national and international NGOs, aid agencies, religious organisations) appear to have played a key role in funding and implementing SSC programmes (Milford, 2012 & 2014; Arce, 2009; Dowdall, 2012; Fraser, Fisher and Arce, 2014; Rotter, 2000). Paschall (2013) argues that this shift to the mainstream results in decisions regarding where and with which groups of producers to implement a SSC programme being increasingly taken by mainstream buyers following business criteria. Such criteria involve minimising certification costs, skipping more difficult to reach and to certify farmers, prioritising implementing SSC programmes in areas that offer opportunities of fast and inexpensive expansion and an increasing marginalisation of farmers' needs and benefits in the certification process. As a result, buyer-driven SSC programmes appear to be targeting and externally selecting producers that are more accessible and better prepared to adopt and comply with the standards.

Second, there has been a general focus of the literature on the 'average' impact of SSC on a 'homogenous' body of 'smallholder' producers, which neglects the presence of heterogeneous effects on differentiated and diverse producers and workers (Luetchford, 2008; Cramer et al., 2014a; Hansen and Trifkovic, 2013). Over the last years, more studies suggesting that not all producers benefit equally (or at all) from standards and certification have emerged. Breimer and de Vaal (2012), for instance, using a heterogeneous firms model found that only the most productive producers will join the Fairtrade certification, as higher production requirements and entry costs will hinder low-productivity producers from adopting the standard. A paradox thus is created: "when Fair Trade succeeds in its inherent workings - better standards, secure trade channels, and so on- the consequence is that it will help the better off, not the least advantaged" (ibid: 3). Moreover, Hansen and Trifkovic (2013:2), use empirical data to examine the effect of voluntary food standards, such as GlobalGAP, on Vietnamese pangasius producers. They show that only the upper-middle-class farmers can benefit from larger returns, while effects are insignificant for the poorest producers of their

sample, pointing to "an exclusionary impact of standards for the poorest farmers". Staricco and Ponte (2015) reach similar conclusions with their comparative study of the Fairtrade and conventional wine sectors in Argentina. The authors find that "instead of empowering the most vulnerable groups, those producing table wine for the domestic market, Fairtrade is actually further marginalizing them" (ibid:65). Furthermore, Cramer et al. (2017:17) observed that within certified cooperatives a minority of larger producers received the lion's share, while farmers with smaller plots and production volumes benefited to a lesser extent, therefore concluding that Fairtrade "aggravates rural inequality". This is echoed by Carimentrand and Ballet (2010) and Staib (2012) who report tensions between larger and smaller producers within certified POs, often resulting in the exit of the smaller ones from the PO and therefore also from the certified market. Overall, such findings sharply contradict claims of poverty reduction related to the impact of SSC, and especially older proclamations of Fairtrade related organisations that the certification particularly targets "the poorest of the poor" or the "weakest producers" (Cramer et al., 2017:841).

Third, within the "poorest rural people" participating in certified production, wage workers employed by so-called 'small-holder' farmers have received even less attention, both by scholars and policymakers (Luetchford, 2008; Cramer et al., 2014a; Oya et al., 2017). This is mainly due to the (false) assumption that smallholder farmers draw mainly on family labour, while their use of wage labour is insignificant (Cramer et al., 2017). The lack of official standards and guidelines for hired labour employed by smallholder farmers clearly contributes to the invisibility of wage workers vis a vis SSC funding and implementing actors (Shreck, 2002; Heller, 2010). Even when standards for wage labour in smallholders' farms are in place, however, their monitoring and auditing are reported to be poor and ineffective (Trauger, 2014; Heller, 2010). As a result, the few studies that have examined this issue suggest that certification related benefits tend to accumulate in the group of farm owners/employers and rarely trickle down to wage labourers. For instance, Cramer et al., (2014b:120) after investigating the effects of Fairtrade in coffee, tea and flower production in Ethiopia and Uganda, conclude that "Fairtrade has made no positive difference – relative to other forms of employment in the production of the same crops – to wage workers". Dragusanu and Nunn (2018)

reach similar conclusions in their study on the effects of Fairtrade on coffee producers and workers in Costa Rica. While they find positive effects on income for farm owners, their analysis shows no effects on seasonal workers, such as coffee pickers. This is because cooperative members, who tend to be farm owners, are unlikely to use the Fairtrade premium to increase the wages of seasonal workers. Another example of unequal distribution of benefits across the population involved in certified production is provided by Nelson, Tallontire and Collinson (2002) who find a lack of clear benefits for porters and shellers participating in the production of Fairtrade Brazil nuts in Peru. Finally, studies comparing labour conditions in certified and non-certified coffee processing plants or mills also fail to provide evidence that SSC benefit wage workers (Valkila and Nygren, 2008; Walsh, 2004). Overall, such findings suggest a targeting or selection paradox: despite the fact that wage workers contribute, often significantly, in the production of certified commodities, they are not considered officially as SSC programme participants and are commonly excluded from any accruing SSC related benefits.

1.3. Selection processes in certification

The above discussion highlights the importance of reviewing how issues of selection into SSC programmes are dealt with so far in the existing literature. While the issue of farmers' choice of selling strategies as a proxy to understand self-selection in certification has received some, although probably not sufficient, attention (Dammert and Mohan, 2014), broader issues of targeting through programme placement or eligibility criteria so far lack systematic reporting in the SSC literature (Oya et al, 2017).

Programme placement processes have received little attention in the broader development literature. Bebbington (2004) highlights that patterns of how and why development interventions (and NGO presence) vary across space and their implications for uneven local development have rarely been mapped or analysed. While there has been some discussion about the concentration of development professionals in urban over rural spaces (e.g. Chambers, 1983; Mercer, 2002), Bebbington (2004) argues that

there are more factors affecting the distribution of development interventions, which can be related to the socio-economic as well as historical and political context. Furthermore, Cramer et al. (2017:843) underline that "locally specific agronomic and microclimatic features" can also affect the placement of an intervention and therefore confound comparisons between 'treatment' and 'control' areas.

SSC programmes, at least until recently, were commonly driven by "benevolent external" actors with a 'poverty reduction' mission, such as NGOs, religious organisations, or aid agencies (Milford, 2012:18). Such actors are likely to have particularly targeted poorer or more marginalised areas. In the case of Chiapas, Mexico, for instance, Milford (2012) reports that certified coffee cooperatives were formed in areas were the population was more disadvantaged in terms of access to information and bargaining skills. This points to a 'negative' selection process, where the least better off are selected into SSC initiatives. Nevertheless, other authors argue that SSC funding and implementing actors, whether aid or market related, are more likely to target areas with already organised farmers, which tend to be in areas with better infrastructure in terms of roads, access to education and health care, etc. Fountain and Hutz-Adams, (2015:7), for instance, highlight that "low hanging fruits" areas with already organised farmers are more likely to be included in cocoa SSC or Corporate Social Responsibility (CSR) programmes. Areas with unorganised farmers, on the other hand, tend to remain largely excluded from such initiatives. This view is echoed by studies which show that SSC funding and implementing actors are more likely to work with larger and more consolidated POs which are reliable providers both in terms of volumes and quality of certified commodities, while less established POs may struggle to enter certified markets (Pongratz-Chander 2007; Kariuki, 2014; Beall, 2012).

Moreover, following the established notion of the 'homogenous' rural population, eligibility criteria appear to be a grey, undefined area for SSC programmes where the eligible target group is described by general terms such as "producers", "farmers" or "suppliers". Among the SSC present in the Ghanaian cocoa sector, UTZ probably provides the most unambiguous definition of who is eligible to participate in its certified groups, by defining the (eligible) producer as "the person or organization who

represents the farm and has responsibility for the products sold by the farm" (UTZ, 2015:11), making explicit that this person can be "the actual operator of the farm (e.g. a sharecropper), and does not need to be the landowner" (UTZ, 2015:10). In a similar tone, Rainforest Alliance defines a group member as "the owner or responsible person of one or more member farms of a producer group" although no clarification on the role of "responsible" person (i.e. tenant, sharecropper or other actor) is provided (Rainforest Alliance, 2017b:19). Fairtrade, on the other hand, uses the general term "smallholder farmer" or "small producer" to describe the members of certified groups of producers. Cocoa farmers making use of hired labour on a permanent basis are in principle non-eligible to become Fairtrade certified (Fairtrade International, 2011). However, it is unclear whether farm owners making use of sharecropping labour, a common form of 'permanent' labour in Ghana (Robertson, 1987) are eligible or not. The eligibility status of sharecroppers themselves is also unclear, as Fairtrade guidelines make no mention whatsoever of the eligibility of farm operators (Fairtrade International, 2011).

The few studies which have empirically examined how eligibility applies in practice, reveal that SSC programmes often target producers organised in POs and therefore the eligibility criteria that apply to the POs end up applying to the SSC programmes (Dammert and Mohan, 2014). This can be problematic for the inclusiveness of SSC in cases where POs officially exclude the poorest farmers on the basis of lack of land ownership or insufficient land size (Bernard and Spielman 2009; Ito, Bao and Su, 2012; Thorp, Stewart, and Heyer 2003). For instance, owners of smaller farms may be formally excluded from certified PO membership (e.g. Nelson and Martin, 2013; Laroche, Jiménez and Nelson, 2012; Staib, 2012), the argument being that they require more extension support while contributing small production quantities, making thus their inclusion in the certified PO economically problematic. Female farmers can be particularly susceptible to PO entrance barriers, as in many cases they have been traditionally excluded from land ownership. This can result in their exclusion from SSC programmes, despite being heavily involved in the production of certified crops, as in the case of Tanzanian female coffee farmers (Sutton, 2014). Moreover, labourers and youths who do not own or sharecrop farms can also be excluded from certified POs, as Ingram et al. (2014) report in the case of Ivorian cocoa farmers. Finally, sharecroppers

farming certified farms are reported to be both eligible (Ingram et al., 2014) and non-eligible (Nelson et al., 2013:33) to join certified POs, confirming that eligibility is ambiguous for non-farm owners.

Finally, the processes by which individual producers select in or out of SSC initiatives have certainly received more attention than programme placement and eligibility issues. Nevertheless, so far participant selection into SSC has been mainly studied as a farmers' choice between selling to the conventional market or to a certified buyer (cooperative, PO, or private company). This view suggests a narrow focus on self-selection which neglects possible processes of 'external' selection, where the inclusion or exclusion decision, although disconnected from official targeting or eligibility criteria is not made by the potential participant producers but by other actors. 'External' selection processes, however, are often in place. Bakker (2014), for instance, reports that certified tea factories in Argentina consciously and intentionally selected in their supplying base larger farms that were already better prepared to meet the standards as a way of minimising the effort and costs of incorporating them in their (certified) production chain. Breukers (2015) describes a similar situation occurring in Colombia, where the national coffee growers federation is reported to have selected farmers that already had cultivation practices close to the certification requirements in order to lower the costs of bringing them into a certified status, while those with small production volumes and/or living in remote areas were excluded. At the same time, farmers on good terms with the programme's extension staff were more likely to be included, a finding which points to the importance of social capital in selection processes.

In terms of self-selection, Oya et al. (2017), after reviewing qualitative evidence from 136 studies, conclude that the main factors that appear to affect producers' likelihood to join a SSC programme are, first and foremost, the ability (and willingness) of producers to bear the extra costs of certified production. These can be related to higher labour costs linked to the implementation of standards and to the entrance and participation in certified POs/ markets (i.e membership fees, ability to withstand payment delays, dedicate time in meetings, etc.), as well as other follow-up costs (e.g. costs of audits). Additionally, producers' ability to attract and secure external financial support by aid

and/or commercial actors to finance the certification process is also reported to be important. Finally, producers' attitude towards risk and gender inequality limiting women's access to SSC are also found to be significant. As a result, variables related to farmers' natural, economic and human capitals, (i.e. land tenure and size, access to family and hire labour, farming experience and degree of market integration, access to credit, income diversification, educational and literacy levels) can determine self-selection into certification. Social status and connections, gender divisions of labour and the broader socio-cultural context, can also play a role. Overall, Oya et al. (2017) suggest that self-selection into SSC tends to be positive, as the wealthier producers, and/or those with stronger human and social capitals are more likely to become certified.

In order to complement the above qualitative findings, Figure 2 provides a summary of the determinants found to have a statistically significant, positive or negative, influence on selection into SSC, as reported by studies that have quantitatively explored the probability of producers' participating in certified POs (e.g. Milford, 2014; Fort and Ruben 2009; Jena et al., 2012; Mueller and Theuvsen, 2015) or directly adopting certification standards (Parvathi and Waibel, 2016; Asfaw, Mithöfer and Waibel, 2007; Muriithi, Mburu and Ngigi, 2011).[3] A table providing a detailed account of determinants of participant selection into SSC programmes by study is provided in Appendix 1.

[3] These are studies that have been identified, appraised and included in the systematic review on the effectiveness of certification schemes conducted by Oya et al. (2017), of which the author of this thesis is a co-author. It is worth noting that the study conducted by Oya et al. (2017) was guided by a different review question and searches were concluded in November 2015 with some key references added in July 2016. This means that the evidence presented here is not the result of a systematic search and therefore does not represent an exhaustive account of all the available relevant and trustworthy evidence. Nevertheless, given the broad scope of the searches conduced by Oya et al. (2017), the evidence presented here can be considered as a fair representation of the existing literature up to July 2016.

Figure 2: Literature review of determinants of selection into SSC

Source: Author's creation

Results broadly support the proposition that producers' natural (e.g. land size and fertility), economic (e.g. livestock, farming equipment, access to credit) and human capital (e.g. education, extension training, farming and exportation experience) positively influences selection into SSC programmes. Access to household labour and connectivity to markets (i.e. number of buyers accessible/used and farm distance to the road) also appear to have a positive effect. Nevertheless, contradictory findings also emerge, with some studies suggesting that land size or education may actually be negatively related with SSC participation. For instance, while land size is broadly reported to be positively associated with the likelihood of participation in SSC, in the case of Asfaw, Mithöfer, and Waibel (2007) it had a negative influence on the adoption of the GlobalGap standard for horticulture, as farmers with larger plots tended to produce cash crops such as coffee and tea, instead of the vegetable crops certified by GlobalGap. What can be noted from the above findings is that the focus of the existent

literature is mainly placed on quantifiable observable variables, such as farm size (Milford, 2014; Parvathi and Waibel, 2016; Asfaw, Mithöfer, and Waibel, 2007), education (Jena et al., 2012; van Rijsbergen et al., 2016), household labour (Milford, 2014; Asfaw, Mithöfer, and Waibel, 2007; van Rijsbergen et al., 2016), while characteristics harder to observe and quantify, such as farmers' relations with buyers or extension staff, motivation to adopt the standards, attitude towards risk and new farming techniques, or the propensity to work closely with other farmers within a cooperative framework remain unexplored (The role of observable and unobservable characteristics is further discussed in section 3.3.1).

1.4.Research aims and thesis structure

The previous section has shown how the limited existing literature points to rather positive participant selection processes, where already wealthier and better prepared to adopt the standards are more likely to join SSC programmes. At the same time, producers with smaller or no landholdings, farming in remote areas and less able to switch to farming under certification standards tend to be excluded. Additionally, labour workers, sharecroppers included, as well as women or youths farming on leased or family land tend to be considered non-eligible to join SSC initiatives, mainly on the basis of lack of land ownership, despite the fact that they contribute (often heavily) with their work to certified production.

Having identified clear gaps in the literature, this research aims to further investigate selection processes into SSC programmes by providing empirical evidence from the Ghanaian cocoa sector. To do so, this thesis focuses on the following overarching research question:

How are different farmers selected (or not selected) into cocoa certification programmes in Ghana?

Following the breakdown of selection processes into the three stages (see Figure 1), three sub-questions guide the analytical work presented in the thesis:

RQ1: How is the placement of cocoa SSC programmes determined?

RQ2: How do farmers become eligible for participation in cocoa SSC programmes?

RQ3: How do farmers select in or out of cocoa SSC programmes?

By exploring the above stated questions, this thesis aims to test the limited but emergent theory on selection processes into SSC, and to contribute to the generation of new theory by suggesting new hypotheses. The research intends to facilitate deeper understandings of the reach of SSC programmes, and address concerns of positive selection that might contribute to increasing inequalities among producers and workers at the local level. Additionally, it hopes to make valid and useful contributions to the broader body of the impact evaluation literature by elucidating the importance of programme placement, targeting and eligibility criteria, and participant selection processes and their implications for the effectiveness of social or economic programmes in terms of who gets to benefit from such initiatives (Pawson and Tilley, 2004).

The thesis is structured as follows. Chapter 2 provides the contextual background of this research, both at the global and local level of cocoa production and cocoa SSC. Chapter 3 presents the conceptual foundations that frame this work. It does so by reviewing how concepts around social and development interventions and selection have evolved in the literature and explains the conceptual choices made in each case. Chapter 4 introduces the methodological approach of the research, outlining the research design as well as the data collection and analysis methods, complemented with details on how these were implemented. The chapter also discusses the limitations of this study from a methodological point of view, and the ethical issues that emerged. The following three chapters comprise the core empirical analytical work of this study: Chapter 5 focuses on programme placement issues (addressing RQ1), chapter 6 on participant eligibility criteria (addressing RQ2), while chapter 7 explores participant selection dynamics into cocoa SSC (addressing RQ3). Finally, findings from these three chapters are synthesised in chapter 8. The final chapter also presents the main implications of the findings in terms of policy and future research.

2. Research context

2.1. Introduction

Context plays a crucial role in understanding the implementation dynamics and the effectiveness of development programmes in general (White, 2009) and of SSC programmes in particular (Oya et al., 2017). Oya et al. (2017) list a number of contextual factors that influence SSC programme implementation and by consequence their selection processes: the power relations between producers and buyers; the historical and institutional context that shapes the dynamics of commodity and labour markets; and socio-economic heterogeneity which can cause the exclusion of certain type of producers and lead to elite capture of certification benefits. This chapter builds around these factors to set out the broader context of this research, in order to enable the reader to better engage with the analytical chapters that follow.

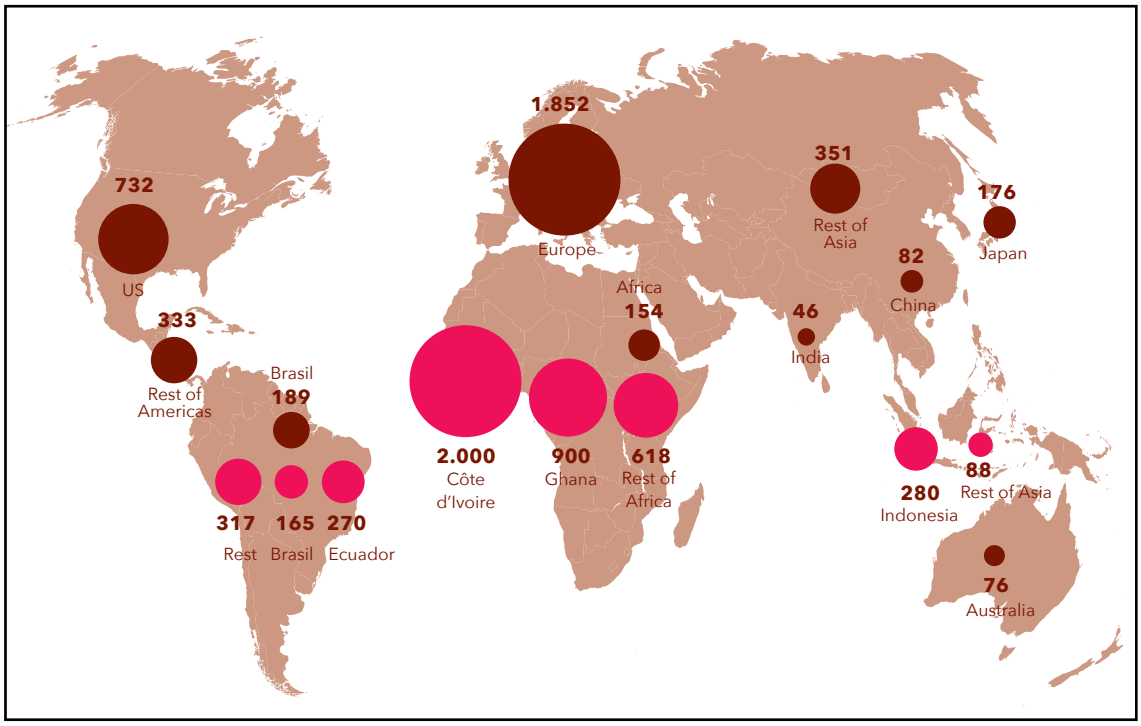
The chapter is structured as follows: first it discusses the the power relations between cocoa buyers and producers at the global level (section 2.2). This is followed by a review of the historical and institutional context shaping the dynamics of the Ghanaian cocoa sector (section 2.3), and its socio-economic structures (section 2.4). Section 2.5 provides an overview of the SSC programmes studied in this research, while the final section concludes.

2.2. Power relations between producers and buyers

More than four million MT of cocoa beans are produced every year (ICCO, 2017) for a chocolate industry which is worth an estimated $110 billion a year (Torre and Jones, 2014; Percival, 2015). More than 70% of these beans are produced in West Africa, with Côte d'Ivoire alone producing about 42%, and Ghana accounting for 17% of the global cocoa production (ICCO, 2017). Between five and six million farmers are estimated to be involved in cocoa production, two million of which in West Africa, using about ten million hectares to produce the crop (Potts et al., 2014). Consumption, on the other hand, is heavily concentrated in Europe, with Switzerland, Germany, Ireland, UK and

Norway leading in the per capita consumption of chocolate (McCarthy, 2015). Figure 3 visualises the volumes (thousand MT) of cocoa produced and consumed across the globe.

Figure. 3: Global cocoa production and consumption (thousand MT)



Source: Fountain and Hütz-Adams (2018)

Growing cocoa is a labour intensive process with little margin of mechanisation. The crop is "delicate and sensitive" and farmers must protect the trees from wind and sun, while also constantly observing for signs of pests and disease (WCF, 2018: na). Cocoa pods, which contain around 20 to 30 cocoa beans each, may ripe at any time, although in most cocoa producing zones there are two main periods of peak production, one heavier than the other, each lasting several months (ibid). The need to monitor trees continuously for ripe or infested pods makes human presence on the farm necessary on a year-round basis. Ripe pods are manually harvested and opened to extract the beans, while the fermentation and drying of the beans also require frequent attention to attain exportation quality standards. These tasks are therefore undertaken on or very close to the farm, allowing few economies of scale (Kaplinsky, 2004). As a result, most cocoa beans are -and historically have been - produced on small or medium-sized, family-run farms (WCF, 2018; Kaplinsky, 2004), making use of a combination of family,

sharecropping, and hired labour (Barrientos, 2014; Robertson, 1987; Okali, 1983). Although cocoa cultivation has been considered mainly a male occupation in West African societies, women have been systematically supplying labour related to planting, caring for young trees, harvesting, pod breaking, carrying, fermenting and drying of cocoa. This has been documented as "unpaid family labour" by Barrientos (2014:792), although Guyer (1980:364) notes that at least among the Yoruba of Western Nigeria and the Beti of South-Central Cameroun "systems of reward in kind for agricultural services rendered by wives to their husbands" that applied to other crops were also extended to cocoa. Moreover, wage labourers and sharecroppers are reported to significantly contribute to the production of the crop in Ghana, with labour migration from the north of the country and from Burkina Faso being documented as early as the 1910s (Okali, 1983; Roberston, 1987).

Over the last decades significant changes have marked the dynamics of the global cocoa production network. At the cocoa production level, there has been a critical reduction of the role of the state in the regulation, marketing and pricing of the crop. This was reflected mainly in the abolishment of state-owned cocoa marketing boards amid market reforms and structural adjustment programmes driven by the World Bank (WB) and the International Monetary Fund (IMF) (Fold, 2002; Barrientos, 2014; Kolavalli and Vigneri, 2011; Barrientos, 2011; Barrett and Mutambatsere, 2008). Ghana's Cocoa Board (COCOBOD) is an exceptional survivor, as discussed in the next section. The effect of the withdrawal of state protectionism is disputed, with some authors arguing that effective reforms led to increased prices for producers (Akiyama et al., 2003), while others suggesting that they caused a decrease, deterioration and elimination of public extension services, provision of inputs, and export facilitation, which lead to a decline of the productivity of small farmers, as well as a decrease in the quality of the exported beans (Fold, 2002; Barrientos, 2014).

At the processing and manufacturing level, on the other hand, an increasing corporate consolidation is being observed, following a series of merges and acquisitions between traders, grinders and manufacturers (Losch, 2002; Kaplinsky, 2004; Fold, 2002; Ryan, 2011; Barrientos, 2014). One of the most characteristic cases is Kraft's (hostile)

takeover of Cadbury in 2011, which then got restructured and gave birth to Mondeléz International, currently the second larger confectionary manufacturer in the world (Moeller, 2012; Walker, 2016).The $1.2 billion acquisition of ADM by Olam in 2015 has further consolidated the processing sector, which is now dominated by only three cocoa processing firms (Barry Callebaut, Cargill and Olam) operating across the globe (McFarlane and Hunt, 2015). At the manufacturer front, the six biggest chocolate manufacturers (Mars, Mondelez International, Nestlé, Ferrero, Hershey, Lindt & Sprungli) accounted for 60% of the global chocolate market in 2016, while Hershey and Mars alone controlled over 70% of the US market in 2017 (Statista, 2018a & 2018b).

These two trends, market liberalisation and corporate consolidation, create a market asymmetry: a concentrated cocoa-chocolate market on the one hand, and a heterogeneous, fragmented and unorganised base of producers, sharecroppers and hired labourers on the other (Barrientos, 2011). Coupled with the absence of supporting structures, most of which collapsed with the liberalisation of the market, the average cocoa farmer is left with a daily income far below the poverty line of $2/day and more exposed to the volatility of the international market (Barrientos, 2014; Fountain and Hutz-Adams, 2015). Many industry stakeholders argue that this market asymmetry is putting global cocoa production at risk and call for collective action to make the cocoa economy operate in a "more sustainable and cooperative manner" (World Cocoa Conference, 2012:1). The Abidjan Cocoa Declaration, signed by 29 cocoa and chocolate companies, organisations and producing countries, also makes particular mention of the necessity to provide "opportunities for smallholder farmers to move out of poverty and to improve their livelihoods", placing poverty reduction at the centre of the future actions the industry should take (ICCO, 2013:no page number).

2.3.The historical and institutional context

Literature on the early years of Ghana's cocoa economy suggests that its development and expansion at the end of the 19th century was largely driven by the initiative of local farmers (Okali, 1983) without the involvement of "foreign owned plantations or foreign settlers" (Beckman (1976:37) or even agricultural experts (Gordon, 1976), heavily

contrasting with the development of plantations for export crops at the same time in East Africa (Milburn, 1976). The establishment of the crop is largely attributed to farmers from the Eastern region of Ghana, whose business orientation drove them westwards to acquire virgin forest land from the local chiefs for cocoa cultivation (Hill, 1963 & 1970, Berry, 1993; Kolavalli and Vigneri, 2011).

These 'migrant' farmers spent long periods working on their farms in the new lands, "like sailors taking very long voyages" away from their homelands, while maintaining strong links with their original communities (Hill, 1963:1, quoting Dr M.J. Field). Characterised by a commercial attitude towards farming, they continuously sought to expand to virgin lands and systematically re-invested cocoa profits in new farms, as well as in transportation and other complementary businesses (Beckman, 1976). Breaking the stereotype of the inefficient small African peasant, Hill (1963:3) reported that these ‘rural capitalists’ were “remarkably responsive to economic incentives [and] remarkably dedicated (within the framework of cocoa-farming) to the pursuits of economic ends”, and saved, accumulated and invested in the long run to expand the cultivation of the crop. Gradually cocoa farming was also adopted by non-migrant farmers throughout the already populated areas, and in some districts 'native farmers' prevailed (Beckman, 1976; Hill, 1963), developing, however, different cocoa farming organisational structures particularly regarding access to land and labour (Okali, 1983).

Besides its contribution to the family economy, cocoa was seen by the Ghanaian state as a legitimate public good, a "national resource" to fund the country's development plans after independence (Mikell, 1992:140; Ryan, 2011). Like in other cocoa producing Sub-Saharan countries, cocoa in Ghana was heavily taxed and controlled by the state through its cocoa board (McMillan, 1998; Kolavalli and Vigneri, 2011). Unlike other cocoa producing countries, however, Ghana resisted international pressure to abolish COCOBOD. The sector was only partially liberalised in 1992 by allowing private Licensed Buying Companies (LBCs) to buy cocoa beans at the farm level through Purchasing Clerks (PCs), usually themselves cocoa farmers. It is estimated that about 28 LBCs operate today in the country (PBC, 2018). COCOBOD not only grants these companies license to operate, but also provides them with operating capital at the

beginning of the cocoa season. It also fixes a unique minimum farm gate price for farmers, which is supposed to be 70% of the Free On Board (FOB) cocoa price (Victor et al., 2010), although others report that it does not exceed 60% (Kolavalli and Vigneri, 2017). Moreover, COCOBOD is still present in all the steps of the cocoa chain: it provides extension services to farmers; ensures the quality of the beans; controls both internal and external markets, regulates farm-gate prices and remains the only exporter of Ghanaian cocoa (Kolavalli et al., 2012; Laven, 2010; Mohammed, Asamoah and Asiedu-Appiah, 2011; Barrientos, 2014). It is due to COCOBOD quality controls that Ghanaian cocoa have a market reputation of exceptional quality that attracts a "substantial quality premium compared with cocoa from other countries" (Quarmine et al. 2012:7). This semi-liberalised model is also deemed to provide protection to farmers against international price fluctuation and to ensure the efficiency of both internal and external marketing (Williams, 2009; Kolavalli and Vigneri, 2011; Kolavalli et al.. 2012). Although the value of COCOBOD's services is generally recognised (Kolavalli and Vigneri, 2011), it is also argued that full liberalisation of the sector (i.e. elimination of COCOBOD, privatisation of state-owned assets, reduction in taxes, increased role of private sector in providing inputs and credit to farmers) would free up financial resources, improve market effectiveness, and reduce distortions in cocoa prices, the combination of which would eventually lead to an increase in the producers' share of the FOB price (Akiyama et al., 2003; Gilbert and Varangis, 2004; Vigneri and Santos, 2008).

Currently, cocoa provides 20% (US $ 2.6 billion) of the total Ghanaian exports (US $ 13.2 billion) (Sulaiman and Boachie-Danquah, 2017), and remains closely linked to the country's economy as the popular saying 'Cocoa is Ghana and Ghana is cocoa' suggests. Nowadays 700,000 farmers in the southern tropical belt of the country are estimated to produce more than 800 thousand MT cocoa beans per year (ICCO, 2017; Kolavalli and Vigneri, 2011). It is not clear what percentage of these beans are certified

due to double certification practices.[4] It is reported, however, that in 2015 Ghana produced 169,057 MT of UTZ, 103,954 MT of Rainforest Alliance, and 79,678 MT of Fairtrade certified cocoa (Lernoud et al. 2017). Ghana's cocoa growing areas and administrative regions are depicted in Figure 4.

Figure 4: Ghana's cocoa growing and administrative regions

Source: Farmers Alliance (2018)

Source: Ampofo (2017)

Although cocoa cultivation initially emerged in the Eastern region, data on COCOBOD purchases from 2010 to 2015 per region indicate that today the bulk of cocoa production is currently located in the Western region, with an average of 470 thousand MT per year, equaling more than half of the national average production (see Table 2). The Ashanti region comes second with 17.13% of the national supply, followed by the Brong Ahafo, Central and Eastern regions with percentages ranging from 8.5 to 10 percent of the total Ghanaian cocoa supply. The Volta region produces clearly much less

[4] Double (or multi-) certification, common also in the case of certified coffee (Ruben and Hoebink, 2015), occurs because some standards are very similar (see UTZ and Rainforest Alliance) which means that once a farmer complies with one standard, adding the second one does not require a significant extra effort. For this reason, farmers and POs often opt for multiple certifications to maximise their market access opportunities. According to the UTZ 2016 Cocoa Statistics Report, for instance, 22 percent of the cocoa certified as UTZ was also Rainforest Alliance certified, while 10 percent was also Fairtrade certified (UTZ, 2017b).

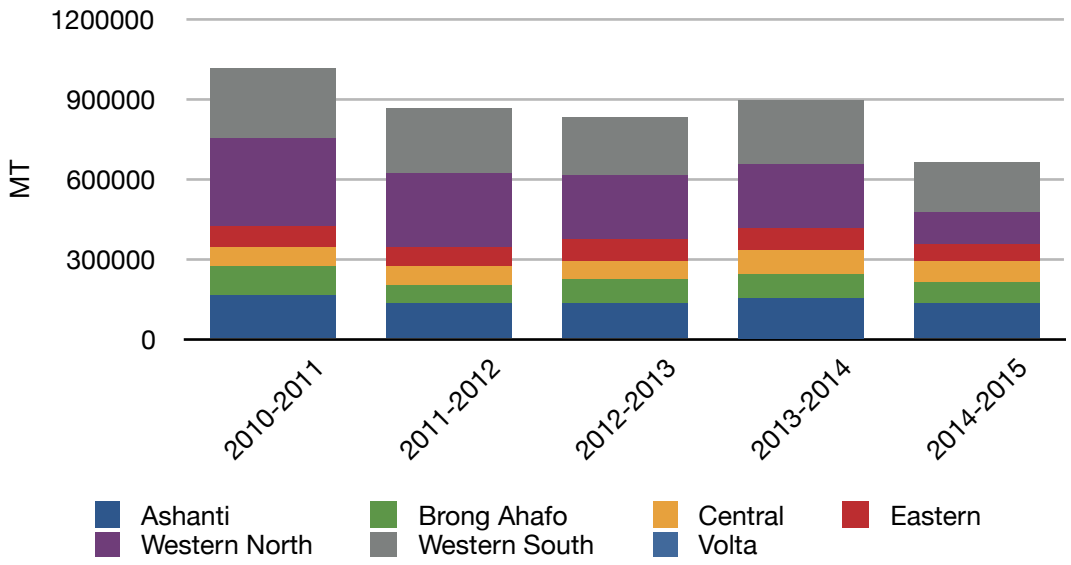
than the rest of the cocoa producing regions with an average of 3.5 thousand tones, accounting for only 0.40% of the national production.

Table 2: COCOBOD cocoa purchases in MT by cocoa district

Region\ Season	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	Average	% of total
Ashanti	168’815	131’981	137’379	156'902	136’568	146'329	17.13
Brong Ahafo	103’463	74'587	88'034	87’116	81’130	86'866	10.17
Central	75'232	69'467	71’540	85'446	71'647	74'667	8.74
Eastern	78'384	65'326	75’912	80’692	68'842	73'831	8.64
Western North	330'284	282’947	242’899	239'346	115’816	242'258	28.36
Western South	253’401	235’710	215’031	243'933	186'516	226'918	26.56
Volta	3’241	3'499	4'495	3’481	2'647	3’473	0.40
Total	1’012'820	863’518	835’289	896’917	663’167	854’341	100
Source: Author’s creation based on data provided by Cocobod							

An illustration of the Ghanaian production per cocoa district from 2010 to 1015 is presented in Figure 5, indicating that although volumes purchased in the North of the Western region have decreased in the season 2014-205, the Western region as a whole is by far the leader in national cocoa production.

Figure 5: Ghanaian production per cocoa district (2010-2015, cumulative)



Source: Author's creation based on data provided by Cocobod

2.4.Socio-economic mobility and structures

Cocoa cultivation in Ghana, at least at the early years, appears to have contributed to a "widespread, if modest, upwards mobility" (Berry, 1993:158), as the practice of converting virgin land into cocoa farms provided opportunities of socio-economic differentiation not only to the wealthier farmers but also to the ones with less resources. Hill (1963:16) highlights that the "company" system of purchasing land, which facilitated collective land purchases where each member of the company was allocated a strip of land proportional to the its financial contribution, allowed "rich and poor alike" to purchase land. Maybe for this reason, the expansion of the crop did not result in vast accumulations of land. Cocoa production remained in small family farms of six to seven acres producing around a ton of output, using seasonal labour at peak periods of the year (Young, Sherman and Rose, 1981:165). Larger farms did emerged, but these were usually divided in smaller plots and left in the care of sharecroppers, who received one third of the crop in exchange, the so-called 'abusa' (i.e. one-third in the Twi language) (Takane, 2000).[5]

[5] Twi is a dialect of the Akan language spoken in southern and central Ghana. It is currently used as the common language between cocoa farmers, even for non Akan farmers.

Abusa productive relationships have been fundamental to the development of the Ghanaian cocoa economy, with Polly Hill attributing the production of “as much as three-quarters of Ghanaian cocoa” in the 1950s to such sharecropping arrangement (Robertson, 1987:53, citing Hill, 1956:9). Still today, abusa sharecroppers (also locally referred to as ‘caretakers’) work on already developed cocoa farms and are “responsible for spraying, weeding and harvesting” (Knudsen and Fold, 2011:379). Abusa contracts tend to be long-term arrangements, which can provide the sharecropper with “a very secure relationship to the land and the product of his labour” after a decade or so of work (Robertson, 1987:73). Nevertheless, decisions regarding when and to whom the cocoa should be sold remain with the landowner who may reside nearby and oversee the sharecropper’s work (Knudsen and Fold, 2011) or be an ‘absentee’ farmer, i.e. a farmer who no longer resides in the community, but only sporadically visits to oversee the sharecropper. Overall, there is an ambiguity around the figure of the sharecropper which can be considered both as a tenant farmer and a labourer, “dependent yet independent”, at the same time (Robertson, 1980:412). In fact, according to Robertson (1987:71), sharecroppers gradually mature from 'abusa labourers’, while the owner supplies them with farming tools and inputs, to ‘abusa tenants’, when they assume greater responsibility in managing the farm, and start using their own farming tools instead of those of their farm-owners (Iliffe, 1983). Robertson (1987) notes that an indication of the transition from labourer to tenant is the permission given to the sharecroppers to set up a food crop farm for their own subsistence. In general, however, it appears that sharecroppers remain a hybrid between the two, being paid their share as ‘labourers’, but also paying over a share of the crop as ‘tenants’ (ibid). Currently abusa contracts are still widespread in the Ghanaian cocoa sector (Boni, 2005; Takane, 2000), despite their numbers being underestimated by survey data (Kolavalli and Vigneri, 2018).

Despite being "treated and paid poorly in times of declining farm incomes”, landless sharecroppers and hired workers, were also commonly able to move “into self-employment”, by acquiring their own land (Berry, 1993:149). Land-labour exchange contracts, called ‘abunu' are likely to have enable these farmers to become landowners, particularly after the 1970s when opportunities for accessing low cost virgin land started to decrease (Ruf, 2014; Boni, 2005). Abunu, which means ‘division in two’ in Twi

(Takane, 2000), are agreements between landowners and tenant farmers by which tenants are given a specific number of years to establish a cocoa farm by clearing the land and “taking full responsibility of all farm tasks (planting of seedlings, weeding, spraying and harvesting)” (Knudsen and Fold, 2011: 379). While the tenant farmer receives no reward until the cocoa trees mature, once the trees become harvestable, landowner and tenant split the revenue from the sales in two. More important, when cocoa production is stabilised and the work is considered completed, the cocoa farm is divided into two equal parts, one for the farm owner and one for the tenant who acquires “permanent farming right over his/her share" (Boni, 2005: 193). As a result, by entering an abunu contract, a tenant farmer acquires land entitlements to half of the farm, assuming that the he/she will be successful in the completion of the agreement. Like abusa, abunu contracts are also very popular up to date (Takane, 2000; Boni, 2005).

Both abusa and abunu arrangements and the possibilities of socio-economic mobility they offer- mainly through land ownership- are further discussed in chapter 6. It is worth noting here, however, that overall, cocoa farming in Ghana provided opportunities for wealth accumulation and social differentiation which lead to the emergence of “a class of rich farmers who were able to access formal education for their children, both locally and overseas” (Anyidoho, Leavy and Asenso-Okyere, 2012:22, citing Nukunya, 1992). This trend may have decreased over the last decades, particularly due to the now scarce opportunities of accessing virgin land. Nevertheless, during the 1990s, cocoa farming-households were reported to experience significant improvements in their living conditions compared to food crop farmers (Kolavalli and Vigneri, 2011:206, citing McKay and Coulombe, 2003). General statements on wealth creation and land accumulation, however, tend to regard cocoa farmers as a homogeneous group, overlooking the complexity of the socio-economic organisation of the production of the crop. In reality, under the term ‘cocoa farmer’ there are farmers with different access to resources and to profits from cocoa production, differentiated by migrant status, gender, land ownership and labour arrangements (Hill, 1963; Takane, 2002; Deppeler, 2014). The literature suggests that not all farmers involved in cocoa production benefited equally from wealth creation opportunities. Okali (1983) and Amanor (2005) report cases of concentration of land and wealth, while according to

Berry (1993: 157-158), farmers with less resources and negotiation power, such as landless sharecroppers and workers or women working on family land, have been "systematically excluded" from the distribution of profits resulting from cocoa commercialisation.

2.5.Overview of programmes studied in this research

Three main models of cocoa SSC programmes dominate the Ghanaian context. The cooperative model, where the certificate is owned by a farmers' cooperative and farmers are supposed to sell the certified cocoa to the certified cooperative; the LBC model, where the certificate is owned by an LBC and farmers are supposed to sell the certified cocoa to the certified LBC; and the Cocoa Life model, where the certificate is owned by a farmers' cooperative which, however, does not purchase cococa and therefore farmers can sell the certified cocoa to the LBC of their choice. These three models are represented in this research by three cases of SSC programmes presented below.

- The Fairtrade certified cooperative/LBC Kuapa Kokoo

Kuapa Kokoo ('good cocoa farming' in Twi) was formed in 1993 by a group of farmers following the internal liberalisation of the Ghanaian cocoa market (Tiffin et al., 2004; Doherty and Tranchell, 2005). It started operating in 1993 across 22 villages (Tiffen, 2002) with the support of a start-up loan from the British NGO Twin and village-level training from the Dutch NGO SNV. In 1995 Kuapa Kokoo became the first Fairtrade certified cocoa cooperative in Ghana and a special channel was created within COCOBOD for Fairtrade cocoa (Kolavalli and Vigneri 2011). As the first Fairtrade certified, farmer-owned, cooperative-LBC in Ghana, Kuapa Kokoo has attracted extended support from international institutions, NGOs and cocoa industry actors over

the years, possibly as a result of the 'honey pot effect'.[6] Today Kuapa Kokoo is among the five larger LBCs of the country (Kolavalli and Vigneri, 2011) and is estimated to have more than 100,000 members across 1,300 cocoa growing communities (Kuapa Kokoo, 2018).

Kuapa Kokoo can be regarded as an "open doors" certification programme, since there is no limit to the number of farmers that can join the cooperative. Any farmer who grows cocoa, is over the age of 18, and willing to pay the membership entrance and yearly fees is in principle eligible to do so (private communication with Kuapa Kokoo officers). In 2016 Kuapa Kokoo went through a restructuring process which required all of its members to become co-owners of the cooperative. This meant that existing members had to re-register and buy a share in order to confirm their membership. As a result, at the time of data collection it was still unclear the exact amount that farmers would need to pay to remain or become members of the 'new' Kuapa Kokoo. It was also unclear whether this process would be open to farm operators. Sharecroppers have been previously reported to be excluded from Kuapa Kokoo membership (Nelson et al., 2013) and the eligibility of non-farm owners remained an ambiguous issue through the re-registration process (see also section 1.3). Cooperative members are expected to sell their produce to the LBC Kuapa Kokoo, which means that participation in the SSC programme is conditional on the selling channel.

- The Fairtrade certified cooperatives of the Cocoa Life programme

Cocoa Life is a $400 million cocoa sustainability programme funded by corporate giant manufacturer Mondelez, which currently operates in six cocoa producing countries: Ghana, Côte d'Ivoire, Indonesia, India, the Dominican Republic and Brazil (Cocoa Life, 2018). The programme built on the Cadbury Cocoa Partnership (CCP), a programme

[6] The "honey pot effect" is a term used to described cases where certified producers' organisations and cooperatives become the "focus of aid" for channeling funds towards producers in developing countries (Oya et al. 2017:121; Nelson, Tallontire and Collinson, 2002; Griffiths, 2011).In the case of Kuapa Kokoo it is characteristic that in 1998, with support from Christian-Aid and Comic Relief, the cooperative became the co-owner of the Day Chocolate Company (now Divine Chocolate Company Limited) along with Twin Trading and the Body Shop.Two years later and with the the support of Twin and DfID, Kuapa Kokoo Credit Union was formed, to provide credit to members at competitive rates (Kuapa Kokoo, 2018b; Vigneri and Santos, 2008).

initiated by Cadbury in 2008, before passing to the ownership of Mondelez in 2010. Under the CCP seven cooperatives, including numerous local societies of farmers, were created and later encouraged to become Fairtrade certified. Nevertheless, in 2015, Mondelez decided to gradually switch from Fairtrade certification to verification. This means that the final product will no longer bear the distinctive Fairtrade logo, but FLOCERT, the auditing body of Fairtrade, will provide verification, using a 'tailor-made' system to verify the quantities of cocoa grown under the Cocoa Life program and to validate whether premiums are paid to the POs (Nieburg, 2015). The move confirms a broader tendency for companies to switch to in-house sustainable schemes (Sahota, 2017).

Cocoa Life cooperatives are in principle an open doors programme, i.e. there is no limit to the number of farmers that can become members of a cooperative. Farmers need to pay an entrance fee to join the group and then a monthly fee to remain members. Both are supposed to be fairly affordable for all farmers. According to the president of Asunafo North, the Cocoa Life cooperative based in Goaso, Brong Ahafo, each local society decides the exact amount of both the entrance and monthly fees, which in general are "around 5 GHS" for the entrance fee and 1-2 GHS for the monthly fee.[7] During data collection, however, farmers reported higher amounts of both entrance and monthly membership fees (i.e. 60-70 GHS to enter the cooperative and a monthly due of 5GHS).[8] This increase was decided by the general assembly of the group on the basis that new members should pay more to enter an already consolidated organisation where older members have already invested more time and money. Although these were still largely affordable amounts, some farmers reported not being able to pay their dues on a regular basis.

Another key characteristic of the Cocoa Life cooperatives is that they are not licensed to buy cocoa. This leads to the paradox of a farmers' cooperative that does not commercialise its members' produce. Instead, farmer members can sell their cocoa to the PC/LBC of their choice. This is because Mondelez, who buys (part) of the cocoa

[7] This would be the equivalent of 0.73 GBP to enter the cooperative and between 0.15-0.30 GBP to remain a member.

[8] Around 9-10 GBP to enter the cooperative and 0.73 GBP of monthly fee.

produced by the groups as Fairtrade certified,[9] is implementing a 'mass balance' system, which does not require the cocoa to be traceable back to the producer.[10] This peculiarity means that participation in the SSC programme is not conditional on the selling channel and farmers can sell to the PC/LBC of their choice and still join the programme. The absence of selling conditionality makes it easier for tenant farmers and sharecroppers to join the Cocoa Life activities, which are open to both members and non-members in the community. Nevertheless, the eligibility status of non-land owners remains unclear as in other Fairtrade programmes.

- The UTZ certified Touton-PBC programme

This programme is the result of a partnership between the LBC Produce Buying Company (PBC) and the French cocoa processor Touton, who is the buyer of the certified cocoa. The partnership is strategic, since PBC, previously the cocoa buying subsidiary of COCOBOD, remains Ghana's largest LBC buying around 30% of the country's cocoa according to data provided by COCOBOD. It has the most extensive buying network throughout the country and enjoys a special status among farmers as it is still often seen as a trusted government related actor, despite the fact that the company has been privatised during the market liberalisation process (PBC, 2018).[11] With the technical support of the Dutch-based NGO Solidaridad, an UTZ certification programme was set up in 2010-2011. The programme has a predetermined upward limit

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[9] It is noted that Mondelez was previously buying Fairtrade cocoa from Kuapa Kokoo. However, when the Cocoa Life groups became Fairtrade certified, Mondelez started to gradually replace these volumes by cocoa produced by the Cocoa Life cooperatives, which are part of Mondelez sustainability programme.

[10] The 'mass balance' system allows processors and manufacturers to use non-certified cocoa to produce certified products, as long as a company purchases the equivalent amounts of certified cocoa it sells as certified. The concept was developed to facilitate the use of certification in complex supply chains where product traceability is logistically challenging and costly and therefore can have detrimental effects on the demand of the certified crop (Fairtrade International, 2018a; UTZ, 2018b). Traceability in the cocoa chain can be indeed challenging, as cocoa beans from different sources tend to be mixed during shipping and manufacturing and therefore keeping certified separated from non-certified cocoa throughout the whole supply chain can be problematic (UTZ, 2018c). Currently all the main cocoa sustainability certification standards use the mass balance system (UTZ, 2018c; Fairtrade International, 2018a; Rainforest Alliance, 2016).

[11] The government of Ghana still controls about 35% of the shares of the company, while another 35% belongs to the Social Security and National Insurance Trust (SSNIT) and the rest to other private investors (Private communication with PBC manager).

of the farmers it can enrol in each society (i.e. initially 50 and then 58), meaning that not all the eligible farmers willing to join the programme can do so. In other words, this is a "closed doors" certification programme that can only enrol up to certain number of farmers. On the other hand, the fact that the programme is implemented through an LBC, in this case PBC, means that the presence of a PO or cooperative of farmers is not necessary. There is no entrance or monthly fee for the farmers who wish to join the programme, however, participation is conditional on selling to the PC of PBC. Being an UTZ programme, tenant and sharecropping farmers are, at least in theory, eligible to join the certified groups (see section 1.3). Table 3 summarises the key characteristics of the three SSC programmes which are relevant for understanding their selection processes.

Table 3. Key characteristics of studied certification programmes

	SSC programme		
Key characteristics	**Kuapa Kokoo**	**Cocoa-Life**	**Touton-PBC**
Standard	Fairtrade	Fairtrade	UTZ
Funded by	Cocoa buyers (various) & NGO support	Cocoa buyer (Mondelez)	Cocoa buyer (Touton)
Certificate owner	Kuapa Kokoo	Cocoa-Life cooperatives	LBC PBC
Membership fee	Unclear. Farmers need to buy a share of Kuapa Kokoo to enter and then pay annual fees.	Unclear, exact amount is decided at the local s	No membership fee
Participation	Unlimited (open doors)	Unlimited (open doors)	Limited (closed doors) - max 58 farmers/society
Selling channel	Participant farmers are expected to sell the certified cocoa to Kuala Kokoo (selling conditionality)	Farmers can sell to any LBC (no selling conditionality)	Participant farmers are expected to sell the certified cocoa to PBC (selling conditionality)
Eligibility	Land owners who are not making use of permanent hired labour. Unclear for sharecropping and tenant farmers.	Land owners who are not making use of permanent hired labour. Unclear for sharecropping and tenant farmers.	The person who represents the farm and is responsible for the production, land owners, tenant and sharecropping farmers included.

Source: Author's creation based on primary data

2.6.Conclusion

The aim of this chapter was to provide the reader with the contextual background of cocoa SSC programmes studied in this research. Starting by reviewing the power relations between producers and buyers at the global level, the chapter discussed how an oligopoly of corporations is increasingly controlling the processing and manufacturing side of the cocoa-chocolate global economy, while a fragmented body of mainly unorganised farmers is faced with decreasing productivity and deteriorating supporting structures. This market asymmetry is causing industry stakeholders to call for collective action in order to make the sector to operate in a more sustainable manner. The rapid growth of SSC programmes should be understood in this context. The discussion then focused on the particular historical and institutional context of the Ghanaian cocoa economy and highlighted how the sector was initially driven by the initiative of local farmers, before being hijacked by the Ghanaian state. The current role of COCOBOD was then described to elucidate the sector's operational structure. This was followed by a review of the socio-economic structures and mobility opportunities within the cocoa economy. Emphasis was placed on the contractual agreements 'abunu' and 'abusa' as they are relevant to the eligibility and participant selection processes discussed in the empirical chapters 6 and 7. Finally, the chapter provided an overview of the three SSC programmes whose selection processes are examined in this research, underlying two key characteristics that need to be kept in mind in order to understand the selection dynamics: first, whether the programme has the capacity to enrol an unlimited number of farmers (i.e. 'open' vs 'closed' doors), and second, whether participation in the programme is linked to selling to particular buyer (i.e. selling conditionality). The following chapter presents the conceptual foundations of this study, namely how development programmes and selection issues are understood in this work.

3. Theoretical and conceptual framework

3.1. Introduction

This chapter outlines the theories and concepts used in this study to understand how farmers select into SSC programmes. These types of programmes tend to be a hybrid between development and market interventions, blending elements from both realms. They are deeply embedded in the global industry of the certified commodity, but also in the local socio-economic, institutional and cultural context (Oya et al. 2017). Additionally, they involve multiple actors from different settings, each with distinct interests (i.e. private companies, government institutions, NGOs, POs, etc). To grasp this complexity, this chapter first reviews the concepts of intervention and outlines the approach adopted by this research (section 3.2). Then it discusses how the the concept of selection has been dealt with in different literatures and specifies how selection is understood in this study (section 3.3.). Finally, section 3.4 concludes.

3.2. Development interventions, projects and programmes

3.2.1. Actor-oriented approach

The terms intervention, programme and project are all used to describe the relationship between policy, implementation and outcomes. Although the term intervention is often avoided due to its resonance with external (unsolicited) interference as well as with conflict, violence, or military action, some authors argue that it adequately captures the dynamics of international development as the result of an intentional activity which differs from a natural process (Kontinen, 2004; Cowen and Shenton, 1998). Rossi, Lipsey and Freeman (2003:29) use the terms ‘social intervention’ and ‘social programme’ interchangeably to describe “an organized, planned, and usually ongoing effort designed to ameliorate a social problem or improve social conditions”. Similarly, projects have been commonly delineated as sets of organised activities, using

predetermined resources within a planned timeline to achieve clearly defined objectives that aim at producing positive socio-economic change in specific geographic areas and populations (Hirschman, 1967; Rondinelli, 1983; Gittinger, 1985; Honadle and Rosengard 1983). Rondinelli (1983) particularly emphasised the role of development projects as financial investments for policy implementation.

This view of policy interventions as a neatly planned set of activities has been criticised, both from an empirical and a theoretical perspective. At the empirical level, Brinkerhoff (1991) expressed concerns regarding the project modality in international development having undesired effects such as duplication of efforts between the public and the private sector, lack of continuity once the project resources are finished, 'brain drain' in the public sector, etc. At the conceptual level, Morgan (1983) criticised the failure of the project structure to grasp the complexity and urgency of development needs through its narrow rationalism. Ferguson (1994), on the other hand, questioned that development projects are simple reflections of the donors and implementers' interests and objectives, and highlighted the importance of accounting for the unintended, and often unnoticed, effects of an intervention.

Furthering this critique, Long (2001) argued against seeing the relationship between policy, implementation and outcomes as a linear process which progresses orderly from policy objectives to materialised outcomes. According to Long and van Der Ploeg (1989), social interventions are not disconnected from the social dynamics and the interplay of the different actors involved and cannot be exclusively confined to (artificial) time and space boundaries. The concept of 'project' therefore is problematic, as it fails to capture the multiplicity and complexity of the development processes, where actors (from implementers and 'experts' to recipient populations) and structures reciprocally and continuously influence each other (Long, 2004; Long, 1999; Long and van Der Ploeg, 1989; Kontinen, 2004). Instead, Long and van der Ploeg (1989) suggested that interventions are embedded in the actions and interactions of state and civil society, which shape their conception, design and implementation. For instance, interventions can be influenced by people's memories of previous experiences of interventions, accounts of other people's experiences, as well as by other livelihood

experiences and concerns, therefore making any "clear beginning" or "final cut-off point" of an intervention meaningless to those involved (Long and var Der Ploeg, 1989: 229; Long, 2004). Given these considerations, Long and van der Ploeg (1989) stressed the importance of understanding how interventions are inserted in the lives of individuals and groups, and how they enable or constrain their social strategies. Overall, Long (2001:25) argued that he concept of development intervention as a carefully planned set of actions, discrete in time and space, with predefined expected outcomes needs to be deconstructed, "so that it can be seen for what it is - an ongoing, socially-constructed, negotiated, experiential and meaning-creating process".

Nevertheless, Long's actor-oriented approach can be problematic if it creates the false impression that actors involved in development interventions are compartmentalised into mutually excluding groups of "aid givers" and "aid recipients", while in reality the roles between donors and beneficiaries (or extension staff and farmers) are flexible and permanently renegotiated (Rossi, 2006:27; Mosse and Lewis, 2006). The approach has also been criticised for overemphasising the role of actors and playing down structural issues of wider politics and economics (Mosse and Lewis, 2006). According to Mosse and Lewis (2006), these drawbacks can be offset by complementing Long's actor-oriented approach with Actor-Network Theory (ANT), which rejects a priori separations between institutions and society.

3.2.2.Actor network theory

Resulting from the sociological studies of science and technology of Callon (1986), Latour (1987) and Law (1992), ANT argues that facts are not true because of their inner validity but because of a network of heterogeneous actors (i.e. human, material or conceptual), which cooperate to make them credible and accepted (Law, 1992). ANT explores how actor-networks form, how they grow in size and scale, how they consolidate and how they gain durability over time (Stanforth, 2009) or, "how pretty much anything can hold together and gain influence" (Scott-Smith, 2013:12). The approach is currently adopted, adapted and applied in all sorts of disciplines beyond science and technology (e.g. Murdoch, 1997; Hughes 2000; Müller 2012; Bockman and

Eyal, 2002; Hawkins 2011; Busch and Juska, 1997). It is used to unpack the 'black boxes' that keep things commonly taken for granted from being debated, and to examine how conventions, such as concepts, theories, or institutions, come into being and establish themselves (Scott-Smith, 2013). In this process, ANT also examines how and why some actor-networks are more successful than others in becoming solid, large and durable. Successful actor- networks involve 'translating' varying "perspectives and interests into one (apparently) coherent whole" (Long 2015: 36).[12] This process, by which heterogeneous actors converge into one point and are treated as a single node in a wider network is referred to in ANT as 'blackboxing' (Latour, 1987; Law, 1992).[13]

Using the ANT lens, development interventions can be seen as the result of a process which requires finding a point of convergence between varying and even conflicting interests of different actors, such as government institutions, aid agencies and NGOs, research institutes and private advisers and consultants (Mosse, 2005). ANT therefore allows assessing the success of development interventions on the basis of the quality of the alliances and consensuses built between actors and not in terms of its a priori design or policy (ibid). This perspective implies that development interventions do not have inherent superior or inferior qualities, but their success (or failure) depends on their ability to gain 'robustness' (Callon, 1991), i.e. to convince a significant number of actors that a project can advance their own interests (Scott-Smith, 2013).

This notion of success is, of course, entirely different from the one found in impact evaluation of interventions, where success is measured in terms of effects on participants related to predefined outcomes. By detaching success from the stated objectives and measurable outcomes of the intervention, ANT allows capturing the

[12]The term 'translation' is used in ANT to describe how heterogeneous actors join a network, aligning their interests and wills to end up with a single voice, as if the entire network was a single actor. By converting the heterogeneous wills of the actors involved in a network "into a single, larger will" (Scott-Smith, 2013:5), networks become able to act as a single 'punctualised' actor (Law, 1992).

[13] In ANT 'black boxes' refer to the things that are taken for granted, restricted from being discussed and questioned. These can be seen as the building bricks of actor-networks. The more elements are placed in this "situation of agreement or indifference" (e.g. relationships, practices, ideas, objects, etc.) the larger and stronger an actor-networks becomes (Scott-Smith, 2013:5).Black boxing, in other words, is a form of simplification of complex networks (Goodman, 1999), which when acting as a single block are "replaced by the action itself and the seemingly simple author of that action" (Law, 1992:4).

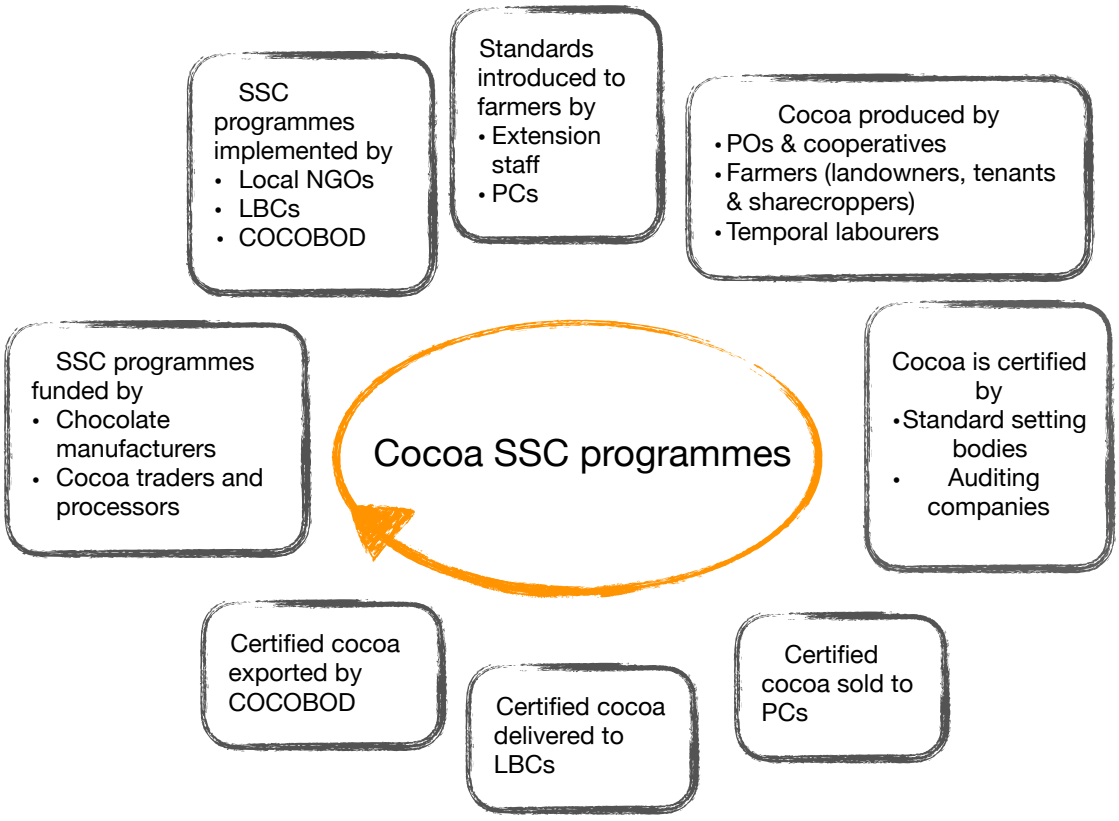
broader context of concepts, organisations, persons and objects that shape the conception, design and implementation of development interventions (Scott-Smith, 2013). It also illuminates how the intervention itself is shaped by the interests of those who engage with it and might even explain why development programmes, more often than not, fail to deliver on their predefined outcomes. The rationale is that development interventions need to build large and extensive alliances in order to establish themselves. Therefore, they tend to take "the least provocative path" and accept "dominant assumptions, by being non-threatening, by being tame rather than radical, by forming alliances with powerful actors, and by avoiding some of the largest structural problems that keep social divisions in place" (ibid:28-29).

With these reflexions in mind, this study uses the terms intervention, programme and project interchangeably to describe the relationship between voluntary sustainability standards, the different ways by which these standards are introduced to farmers and their intended and unintended outcomes. Drawing on actor-oriented approach and ANT, cocoa SSC programmes are characterised as an "ongoing, socially-constructed and negotiated process" (Long, 2004:27) whose success (or failure) depends on the ability to advance the interests of the actors involved (Mosse, 2005; Scott-Smith, 2013). These include. the chocolate manufacturers and cocoa traders and processors who purchase the certified beans.These will be referred to as funding actors. Then, the actors that implement (or overview the implementation) of the programme, like local NGOs, LBCs and in some cases also the COCOBOD, through its extension services.[14] These will be referred to as implementing actors. Next, the actors who are in direct contact with the farmers and introduce the standards, such as PCs and agricultural extensionists. These will be referred to as facilitating actors. PCs are also responsible for buying the certified cocoa, and along with LBCs they also act as local trading actors. Then the producing actors, i.e. the farmers (landowners, tenants and sharecroppers) and their organisations (POs and cooperatives) as well as the often invisible temporal labourers. Finally, actors who set the standards and certify the cocoa, such as standard setting organisations (e.g. Fairtrade, Rainforest Alliance) and auditing companies, which will be referred to as

[14] For instance, the extension services of COCOBOD are involved in the implementation of the Cocoa Life programme.

certifying actors. The whole cycle of a SSC programme with the actors involved in each step is illustrated in Figure 6.

Figure 6: SSC programme cycle and actors involved



Source: Author's creation

3.3.Selection

3.3.1.Systematic selection

The term selection is used to capture the ways in which certain individuals enter certain groups. This can be a random process (e.g. the winners of a lottery are randomly selected from a population of lottery players), however, in most real life situations this process is not random but systematic, i.e. driven by specific individual characteristics and life trajectories. The importance of systematic selection has been recognised by economists, particularly in the fields of labour economics and impact evaluation. Roy (1951) in his seminal study of purposive selection and income distribution, analysed

occupational choice recognising heterogeneity in inherent ability or human capital investments. He argued that "persons engaged in a particular occupation tend to be selected in a purposive manner from the working population as a whole" and examined under which conditions selection is positive, i.e. the 'best' producers self-select in the most profitable occupation (ibid:135). The labour market literature has built on Roy's model, showing that immigrants selling their labour force in host countries are systematically selected from their country of origin (Borjas, 1987).

In the case of SSC, funding, implementing and facilitating actors externally select participants through targeting particular geographical areas and farmers' groups but also through predefined participation eligibility criteria. At the same time, however, sustainability standards are voluntary, as producers have no legal obligation to abide by the standards but voluntarily decide to adopt them. This means that besides the external selection there is also a strong element of self-selection of participants into certification schemes (Dammert and Mohan, 2014; Becchetti, Castriota and Solferino, 2011; Chiputwa, Spielman and Qaim, 2015). As a result, participants who self-select into SSC interventions come from a pool of farmers who have been previously externally selected through programme placement and eligibility criteria. This bidirectional selection is observed in other interventions, such as micro-finance, where eligibility criteria shape external selection, while participants' motivation to apply for a loan defines self-selection (e.g. Khandker, 1998; Armendáriz de Aghion and Morduch, 2005).

Moreover, systematic selection can be driven by both observable and unobservable individual characteristics, as studies from different academic fields show (i.e. Borjas, Kauppinen, and Poutvaara, 2015; Goldhader, Brewer, and Anderson, 1999; Fernandez, 2001). The distinction between observables and unobservables is mainly used by quantitative studies to denote the variables that can or cannot be observed by the statistical model (i.e. Vella, 1998; Durlauf, 1999). Observable characteristics are variables that can be objectively measured and are commonly picked up by surveys, such as age, sex, schooling level or farm size. Engaging with a SSC programme, for instance, can be related to the observables of land size, farming equipment and farming training (see section 1.3). On the other hand, unobservable variables such as ability,

motivation and entrepreneurship (Armendáriz de Aghion and Morduch, 2005) are more difficult to measure in an objective way and therefore tend to escape quantitative data collection methods. Instead, they can be better captured by qualitative tools or experimental games (Duvendack, 2010). In the case of SSC programme for example, selection can be determined by farmers' social networks and personal relations with buyers, extension or PO staff, as well as ability and motivation to adopt the sustainability standards.

3.3.2. Selection as a bias

In the impact evaluation literature, studies have been mainly concerned with the bias that systematic selection can cause when estimating the effects of an intervention. Impact evaluation studies seek to demonstrate that the identified changes in the well-being of participants can be attributed to a specific intervention and not to other confounding factors (Khandker, Koolwal and Samad 2010). To do this, they draw on the potential outcome framework, also known as the Roy (1951)-Rubin (1974)-model (Caliendo and Hujer, 2005). The objective of the framework is to establish causality between a treatment (e.g. participation in a SSC programme) and the outcomes of individuals (e.g. income) by creating a counterfactual scenario to determine how individuals would have performed had they not participated in the programme (Caliendo and Kopeinig, 2005; Ravallion 2001; Imbens and Wooldridge, 2009; Russo, Wunsch, and Mouchart, 2011; Stern et al., 2012, among others). As the counterfactual cannot be observed, since it is impossible for an individual to participate and not participate in a programme at the same time, it is assumed that the outcome for participants had they not participated in the programme is the same as the outcome for non-participants (Rubin, 2005).

This assumption, however, does not hold when individuals enter a programme in a non-random way. This is because programme participation can be driven by observable and unobservable individual characteristics which can make participants "selectively different from randomly sampled persons in the population" (Heckman and Vytlacil, 2007:4882), hence performing differently even in the absence of programme

participation (Caliendo and Hujer, 2005). As a result, it cannot be known whether outcomes should be attributed to the programme or to pre-existing differences in observable and unobservable characteristics between participants and non-participants, correlated both with programme participation and performance (Heckman, 1979). The resulting bias can lead to over-estimations of the impact of the programme, when participants are already better off individuals which would have out-performed non-participants even without the intervention (i.e. positive selection), or under-estimations, when participants are the least better off which would have under-performed non-participants anyway (i.e. negative selection). This bias is commonly referred to as 'selection bias' and is posing a great challenge in establishing causality between outcomes and social or development programmes when participant selection is not random (for more on selection bias see Khandker, Koolwal and Samad, 2010 and Ravallion, 2001 among others.)

Similarly, assessing the effects of a programme by comparing participants and non-participants from areas with and without the programme can lead to 'placement bias', if the programme placement is endogenous, i.e. if programme allocation across villages was not random but consciously designed based on the "wealth, attitudes or other attributes" of the villages (Pitt and Khandker, 1998:961). Rosenzweig and Wolpin (1986) were among the first ones to show that omitting to account for non-random spatial programme allocation leads to biased estimates. More studies highlighting the importance of accounting for systematic programme placement in order to avoid under-, or over-, estimations of programme effects have followed since (e.g. Pitt, Rosenzweig, and Gibbons, 1993, Angeles, Guilkey, and Mroz, 1998; Pitt and Khandker 1998; Tedeschi, 2008). These studies show that programme allocation, from public health or education interventions to micro-finance programmes, is unlikely to be random. On the contrary, funding and implementing actors will place programmes according to the programme aims but also their own interests, two placement criteria that may be aligned, but they can also diverge. Family planning interventions, for instance, are likely to be placed in areas with high fertility, while health, education and nutrition programmes will probably target high poverty areas (Todd, 2007). A micro-finance lender, on the other hand, may choose to operate first in areas where the "economic

possibilities" are more favourable, i.e. where there are less chances of programme participants defaulting on their loans (Tedeschi, 2008: 512), and not necessarily where the programmes is most needed. Therefore, there can be cases of positive or negative programme placement, i.e. some programmes may be targeting areas where the potential participants are already better off than the population in other areas, while others may target more disadvantaged areas in terms of programme endpoint outcomes than the non-programme areas. Self-selection can also affect programme placement. For instance, communities with greater social capital are more likely to apply and obtain community development programmes whose objective is to build social capital (White, 2009). Therefore comparing communities with and without the programme in terms of social capital is more likely to reflect pre-exiting differences than programme effects.

Selection (and placement) bias can be addressed using Randomised Controlled Trials (RCTs), an experimental research design which randomly allocates people into treatment and control groups (Krauss, 2018) or quasi-experimental designs, such as Propensity Score Matching (PSM), Difference-in-Difference (DD) and Instrumental Variables (IVs) (for a discussion of the effectiveness and limitations of these methods see Deaton, 2009; Duvendack, 2010; Stern et al. 2012; Krauss, 2018 for RCTs; Smith and Todd, 2003 for PSM, among others). The common ground of these methods is that they aim at purifying the programme effect from the potential selection bias in order to produce unbiased estimates. Efforts are concentrated in directly eliminating the effect of selection bias by randomising participation in the programme prior to data collection in the case of RCTs, or by using specific techniques to correct for selection bias post data collection, like in the case of quasi-experimental methods. In both cases, systematic selection is conceptualised as a bias that needs to be eliminated (i.e. Heckman 1979; Caliendo and Hujer, 2005).

3.3.3. Selection as a source of learning

Systematic selection of participants, however, is not only a source of potential bias. The presence of selection bias indicates that some individuals with specific characteristics are more likely to participate in, and potentially benefit from, an intervention than

others. Unpacking selection processes, therefore, can delineate the reach of an intervention by visualising who is included and, just as importantly, who is not. It can illuminate barriers to participation for specific sub-groups of the population and cases of elite capture. It can inform on whether a programme is amplifying socio-economic inequalities by further benefiting the already better off, or whether it is reaching the most disadvantaged ones. Finally, it can tell us if a programme is effectively targeting the intended population and suggest ways to get to those who should be - but are not - reached.

For these reasons, this thesis argues that systematic selection is a valuable source of learning which deserves attention beyond the concern of obtaining unbiased effects. In other words, if we want to understand who can really benefit from a development intervention and who cannot, we need to move beyond the 'black-box' impact evaluations which are narrowly concerned with whether an intervention works, and explore the mechanisms by which interventions "work or fail to work" (Scriven, 1994:75). White box, or theory-based evaluations aim at doing exactly that: unpack the black box of an intervention in order to explore its "inner components or logic" (Astbury and Leeuw, 2010:365). Theory-based approaches to evaluation focus on the causal theory of the programme (Chen, 1994) and examine the "conditions of program implementation and mechanisms that mediate between processes and outcomes as a means to understand when and how programs work" (Weiss, 1997:41). They are also concerned with tracking "the contexts in which these mechanisms are triggered" (Kazi, 2003: 803). By doing that, they go beyond the 'impact evaluation' or 'effectiveness' question (i.e. 'Does an intervention work'?), to inform questions regarding the processes by which outcomes are (or are not) obtained, such as "What works for whom in what circumstances and in what respects, and how?" (Pawson and Tilley, 2004:2). Calls for adopting theory-based approaches to impact evaluation have first emerged in the 1960s (Astbury and Leeuw, 2010), and have intensified over the last years as evaluation users, such as policy makers, programme funders and researchers, stress the need to deal with the complexity of interventions and understand not only whether an intervention works or not, but also why, how and for whom (Stame, 2004; White, 2009; Marchal et al., 2012; Rogers, 2007).

The theory-based evaluation approach requires examining the theoretical underpinnings on which a programme is based, such as the sort of activities that are being conducted, the expected effect of each activity, and how these can lead to the theoretically expected outcomes (Birckmayer and Weiss, 2000). Nevertheless, theories of selection processes, from the targeting of specific geographical areas and social groups, to eligibility criteria and final enrolment of participants, remain largely under-explored even within the area of theory-based evaluation, despite calls for including at least targeting analysis in every impact study (White, 2009). Instead the analysis tends to focus on the individuals that are already enrolled in the programme and does not question how these individuals were externally selected or self-selected into the programme and whether this selection process fits the theoretical assumptions in which the programme is embedded. This could be attributed to unstated (Tilley, 2004) or not sufficiently elaborated (Rogers, 2007) theories able to explain selection processes.

In the case of cocoa SSC initiatives, although all three standard setting bodies operating in the cocoa sector have an explicit theory of change (see Fairtrade Foundation, no date; Milder and Newsom, 2015; UTZ, 2016), none makes reference to a 'selection' or 'targeting' theory defining the intended target group of producers and how this group is supposed to be reached. Therefore, this study cannot use the theory-based evaluation approach to structure the analysis around theoretical assumptions that underly the intervention (Carvalho and White, 2004), since in the case of SSC interventions and selection processes these are not yet documented. Instead, theory-based evaluation principles are used to address the "for whom" question that theory-based evaluation poses, and to produce new theory that can facilitate a deeper understanding of such processes. This is done by following the five remaining key principles of theory-based evaluation, besides mapping out the programme theory (White, 2009): paying particular attention in understanding the context within which SSC programmes operate; anticipating heterogeneity in the way SSC programmes access and benefit participants; analysing the factual processes of programme placement, and participant eligibility and selection; and finally, mixing quantitative and qualitative methods of data collection and analysis (see section 4.3 for the rationale for using mixed methods).

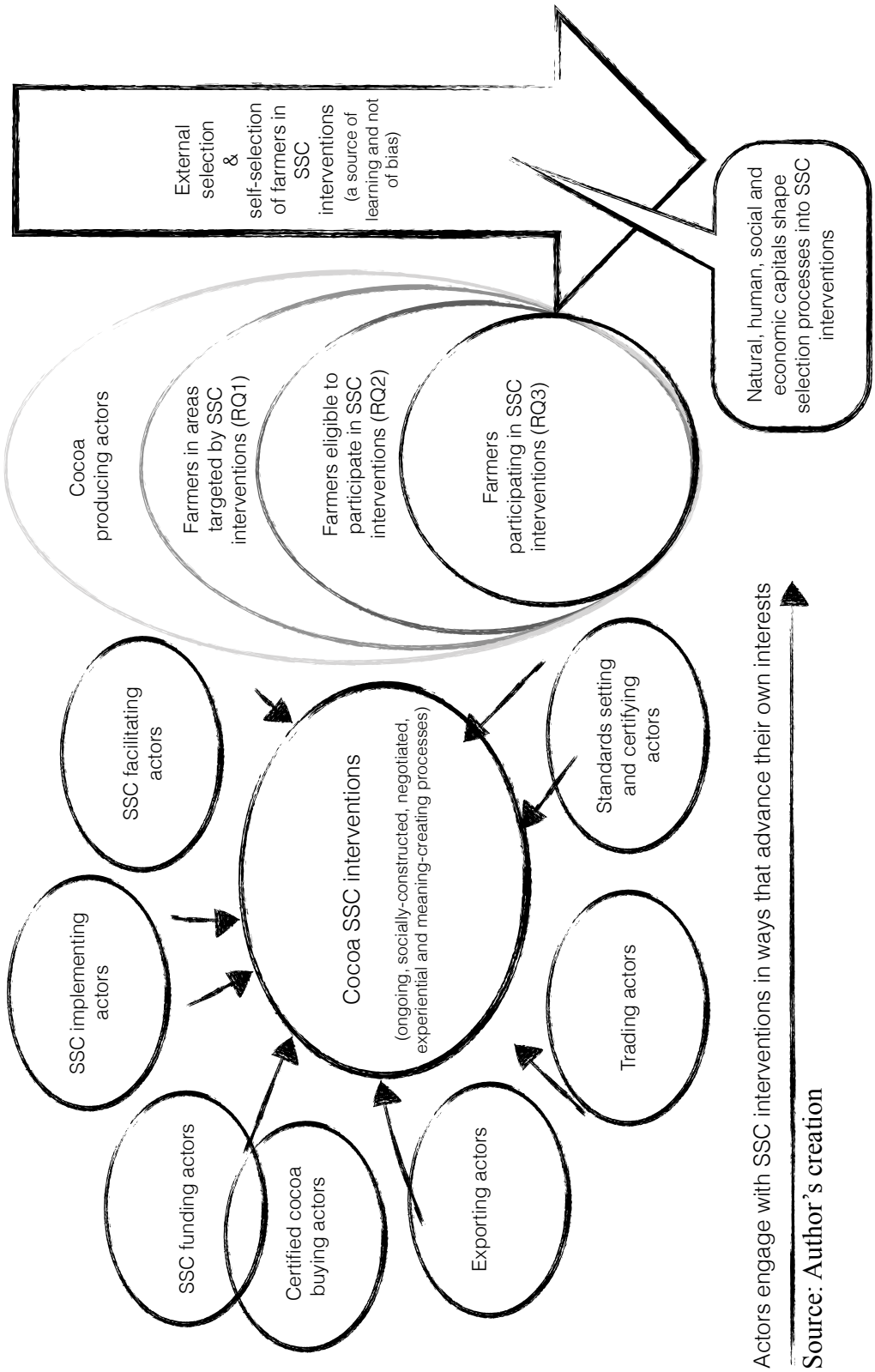
Finally, to compensate for the lack of an already existing ‘selection' theory that could guide the analysis, this research uses the Sustainable Rural Livelihoods (SRL) framework as an analytical tool to assess the livelihood resources (natural; economic or financial; human and social capitals) that shape one’s “ability to pursue different livelihood strategies” (Scoones, 1998:7). From an SRL lens, SSC programmes are regarded as an agricultural intensification strategy, which is mainly labour-led, i.e. supported by “own labour labour and social resources and a more autonomous process” (ibid: 9), since the adoption of standards is commonly linked to an increase of labour input (Oya et al., 2017), but also capital-led, in the cases where the adoption of standards requests an increase in the use of fertiliser or farming equipment, such as pruning machines.

3.4.Conclusion

The aim of this chapter was to outline the main theoretical and conceptual foundations that frame this research. First, it reviewed the debate on the concepts of intervention, programme and project, focusing on the critique by Long's actor-oriented approach and ANT. It became clear that the relationship between policy, implementation and outcomes should be recognised as a dynamic process, continuously shaped by the interplay of the interests of different actors involved. This research sees cocoa SSC interventions through this conceptual lens. The discussion then turned to the concept of systematic selection and its centrality in impact evaluation as a source of bias. Drawing on theory-based approaches to evaluation, it was argued that there is value in regarding selection also as a source of learning, a “black box” that needs to be unpacked in order to understand for whom a programme may or may not work. Given the lack of theories related to selection processes into SSC programmes, it was detailed that the role of theory-based evaluation in this work is to orient the generation of missing theory through understanding context, anticipating heterogeneity, and using mixed methods to analyse factual processes (in contradiction to counter factual approaches). Finally, the chapter pointed out that the SRL framework and its classification of livelihoods resources (i.e. natural, human, social and economic capitals) is used to structure the analysis of the empirical chapters that follow. Figure 7 integrates the different

theoretical elements presented in this chapter into a single conceptual framework and draws links to the questions that drive this research. The next chapter outlines the methodological choices of this study and how they were implemented.

Figure 7: Integrated conceptual framework



4. Methodological approach

4.1.Introduction

The purpose of this chapter is to outline the methodological approach of this research. First, it presents how this research originated and how previous biographical experiences have affected the way this study was conducted (section 4.2). Then, it discusses the choices made regarding the research methodology and design (section 4.3). This is followed by a justification and a description of the research location (section 4.4.). The next section discusses data collection, management and analysis methods, complemented with details on how these were implemented (section 4.5). Section 4.6 discusses the research limitations form a methodological point of view, as well as the ethical issues encountered throughout the research. Finally, section 4.7 concludes.

4.2.Research motivation and positionality

The idea to investigate selection processes into SSC programmes first emerged in 2007, while I was doing fieldwork with cocoa farmers in the coastal areas of Ecuador for a master's degree in international development. As a student, I was intrigued by the fair trade movement and I wanted to investigate what changes, if any, Fairtrade and organic certification were bringing to these cocoa farming communities. Speaking to both members and non-members of the certified PO, I observed that certified farmers, although by no means rich, were certainly better off than their non-certified neighbours. They had larger and more accessible farms, and better connections to the local 'elite': the small businessmen in the area and those involved in local politics. Non-certified farmers, on the other hand, had smaller farms in more remote areas and appeared to be more isolated socially as well. It became clear to me that these differences were not caused by programme participation, but the other way around. Programme participation was driven by these differences. This realisation contrasted heavily with the idea that Fairtrade offered a better deal to the most disadvantaged farmers, which was systematically cultivated by the discourse of Fairtrade related organisations. As I went

on to work for ATOs and consumers' associations back in Europe I kept thinking whether SSC promoted by these organisations were just picking up the already better off instead of reaching the ones most in need of support. Increasingly fixated on this idea, in 2011 I decided to enrol for a Masters in Impact Evaluation. During the course I realised that although selection issues are central in impact evaluation, their mechanisms and social implications for the inclusiveness of interventions remain under-explored. Such reflections provided the theoretical and technical foundations for a PhD proposal which was accepted in 2013.

The original proposal was a mixed methods comparative case study on the impact of SSC in two value chains (cocoa and bananas) in the Ghanaian context. However, as the research evolved I realised that a narrower scope was needed. Additionally, during the first year of my PhD I became a mother, a personal event which transformed me also as a researcher. On the one hand, motherhood enabled me to focus on the things that mattered to me the most, or, as Polly Hill notes in an interview with Alan Macfarlane on her own experience as a mother-researcher, to "immediately [see] the point of what I was doing" (Macfarlane, 1996, 00:06:30). In my case, this meant dropping the effectiveness question (i.e. do SSC work?) and focus on the under-researched, and far more interesting to me, selection processes (i.e. for whom SSC may work?). These developments also affected the research methods I should and could use. Although I maintained the original mixed methods approach, qualitative data became more important, since the objective now was to investigate processes and not effects (White, 2008). Additionally, I had to find creative ways to overcome the practical constraints resulting from doing research with a young child. For instance, data collection methods that would require extensive fieldwork, such as conducting ethnography or large scale surveys, were no longer a feasible option as it would mean separating my son from his father for a long period of time. To compensate for this limitation, I opted for faster methods of data collection such as different types of interviews and focus groups. The use of life history interviews in particular allowed collecting rich data on farmers' trajectories, that probably would have been impossible to obtain through questionnaire interviews as Oya (2007) notes from his own experience. Additionally, secondary survey data were considered to complement primary qualitative data. As a result, the

composition of secondary datasets in terms of available variables also determined the quantitative analysis. In my case the presence of a variable capturing farmers' membership in Kuapa Kokoo, the Fairtrade cooperative/LBC in a secondary data set enabled me to examine placement and membership likelihoods using a probit model. Finally, conducting fieldwork with a young child also meant that the chosen research location should provide some minimum facilities (i.e. using a hostel in a small town as a basis instead of residing in a farming community). Coupled with the childcare expenses, such accommodation requirements increased the cost of fieldwork considerably and therefore put further pressure on its duration.

Moreover, my biographical professional and personal experiences have certainly influenced how I perceived those who participated in the research and the way they perceived me, and as result shaped how this research was conducted. For instance, although I perceived SSC programmes as generally well-intentioned, previous working and research experiences with certification schemes also made me sceptical of their actual impact. Furthermore, as an 'external-outsider', lacking previous research experience in Ghana, I had only a partial understanding of the "values, perspectives, and knowledge" of the cocoa farming community I studied (Banks, 1998:8). This was mitigated by the help of a native (female) interpreter who, coming from a cocoa growing family not only spoke Twi (the dominant language in the cocoa growing areas), but also had a deep understanding of the context. Her presence allowed overcoming linguistic and cultural barriers during data collection and helped me grasp nuances that I would have failed to comprehend on my own. It should be noted, however, that my understanding and interpretation of the context and the data collected are inevitably mediated by the observations and comments of my interpreter, who was also perceived as an outsider due to her higher education. Furthermore, the fact that I was a woman and a mother, juggling childcare and research duties in the field, allowed accessing female farmers who probably would not have been comfortable disclosing data to white male outsiders. At the same, my perception is that these characteristics did not hinder collecting data from male farmers either. Male participants openly discussed possibly sensitive issues such as income sources, debt, acquisition of land and marriage decisions. It is true, however, that more sensitives issues were not discussed on the first

encounter with the participants (both male and female) but after a series of interactions and small gifts which contributed in building familiarity and trust between the researcher and the researched community. Finally, as a student and not a person employed by the cocoa or certification industry, I was commonly perceived by the professionals of the sector as an accessible, 'non-threatening' figure, driven by simple curiosity about their work, with no hidden agenda, a fact which facilitated data disclosure particularly with industry informants.

4.3.Research methodology and design

This thesis adopts a mixed methods approach to data collection and analysis. The case for the use of mixed methods has long been made in the field of impact evaluation (e.g. Madey, 1982; Caracelli and Greene, 1997; Pawson and Tilley, 2004; Adato, 2007; White, 2008; White, 2009; Bamberger, 2012). While quantitative methods are commonly used to asses the effects of an intervention, qualitative methods can reveal the processes by which these effects are obtained (White, 2009; Marchal et al., 2012) and therefore are particularly relevant in theory-based evaluations (Carvalho and White, 2004). Mixed methods provide a "richer pool of data and greater analytic power" than qualitative or quantitative methods alone (Adato, 2007:6), as the first allow a greater "depth of understanding" through data saturation (Glaser and Strauss, 1967), while the latter result in a greater "breadth of understanding" through generalisability (Palinkas et al., 2015:534). In short, combining quantitative with qualitative methods allows benefiting from the strengths of the two approaches, while mutually neutralising their weaknesses (Jick, 1979).

Greene, Caracelli and Graham (1989) identify five purposes for mixed methods evaluations: triangulation, complementarity, development, initiation, and expansion. In this study quantitative and qualitative methods of data collection and analysis were mixed to triangulate, i.e. to assess whether the findings resulting from different methods converge or not. They were also used to complement findings on different aspects of the same phenomenon and thus reach more holistic understandings. For example, data from SSC membership lists were combined with data from structured interviews and life

histories in order to better understand which farmers are de facto eligible (and which are not) and how farmers with different land status perceived their own eligibility (see section 6.2.2). Given the absence of relevant theories on selection processes of SSC programmes (see section 3.3.3.), the use of mixed methods also served for development purposes. For instance, in the absence of a 'placement' theory that could guide the analysis, primary qualitative findings from semi-structured interviews with industry stakeholders empirically informed the probit model used to analyse secondary quantitative survey data in order to identify placement determinants (see section 5.2). The exploration of farmers' selection processes into SSC followed an inverse process: the key findings of the multivariate analysis informed by the literature review presented in section 1.3 were used to structure the qualitative analysis and examine where results converged or diverged (see section 7.2). Finally, although initiation was not an original purpose of the research design - in fact, as Green, Caracelli and Graham (1989) highlight, purposeful initiation is rather uncommon in practice - the emergence of contradicting qualitative and quantitative findings prompted the suggestion of areas for further investigation, as well as new interpretations. The 'expansion' purpose, which refers to studies that "aim for scope and breadth by including multiple components" (ibid, 1989: 260) did not apply here, as this research sought to explore and understand programme processes, without aiming to expand the outcomes of these programmes.

In terms of design, this study is conceived as a single case study with embedded sub-units. This means that the study considers "different sub-units that are situated within a larger case" (Baxter and Jack, 2008:550), in this case different SSC programmes operating within the Ghanaian cocoa sector, that can illuminate different angles of the same phenomenon (Scholz and Tietze, 2002). Several reasons support this choice. First, case studies are suitable for studying present-day phenomena in their actual context, particularly when these are ingrained in the context to the extent that it becomes difficult to separate one from the other (Yin, 1981a &1989b), as is the case of SSC programmes (Oya et al., 2017). Furthermore, case studies are fitting for the 'how' and 'why' questions posed by this study: How do selection processes occur in this specific context? Why do certification programmes operate in some areas but not in others?

How does a farmer become eligible to participate in a SSC programme? Why do some farmers enrol in SSC programmes and adopt the standards while others do not? This explanatory scope is supported by the case study approach, particularly since the behaviour of the actors involved in SSC programmes cannot be easily manipulated or controlled (Yin; 2013; Baxter and Jack, 2008). The case study design is also suitable for the intention of this research to test and generate theory by fostering new hypothesis and new research questions (Eisenhardt, 1989; Flyvbjerg, 2013) (see section 1.4). Finally, the case study design is compatible with the mixed methods approach (Yin, 1981a). Embedded case studies, in particular, often make use of a plurality of methods within the subunits (Scholz and Tietze, 2002). Theory-building in these cases can be further enhanced by the use of mixed methods as the triangulation of findings can strengthen and complement the construction of new hypothesis (Eisenhardt, 1989).

4.4.Research location

The larger case of this embedded case study is the Ghanaian cocoa sector. Ghana was chosen due to the country's historically important connection to the crop (e.g. Hill, 1963; Mikell, 1992) (see discussion in sections 2.2. and 2.3.). Additionally, the country has also been peaceful and stable, facilitating the production of a large and rich literature that could inform and orient the first stages of this research. On the subunit level, three different SSC programmes were purposefully selected for their diverse characteristics in terms of implementation model (i.e. the cooperative model, the LBC model and the Cocoa Life model, see section 2.5 for more), in order to inform different "theoretical categories" that would allow complementing and expanding the emergent theory (Eisenhardt, 1989: 537).

In practice, two rounds of interviews with professionals from the cocoa-chocolate, certification and aid industries were conducted (July 2015 and January-February 2016), to collect data both on the broader case and its subunits. Based on these interviews the cocoa district of Goaso in the Brong Ahafo region was chosen as a base for collecting farmer-level data (see Figure 8).

Figure 8: Fieldwork area

Source: 'Goaso' (2018)

This choice was supported by the presence of the three main SSC models in the area and the existence of basic accommodation facilities where fieldwork could be conducted with a young child (see section 4.2). I opted for collecting farmer-level data only from one cocoa farming community, and not multiple research sites. This is because I aimed for reaching more nuanced understandings of the local socio-economic dynamics that can affect selection processes and therefore I prioritise gaining depth (by focusing in one location) over breadth (by covering various sites). This choice also provided more data triangulation opportunities. The downside was losing the possibility to make cross-case comparisons and capture community-specific characteristics that can influence selection process.

The study community was chosen according to the following criteria. First, at least two - but ideally all three- of the main SSC models should be present in the community to allow comparisons. Second, the size of the community should be small enough for data collection to be manageable, but large enough to provide sufficient data. Third, the community should be easily accessible by car from the town of Goaso to allow daily

commutes. After a number of scoping visits, three cocoa growing communities meeting these selection criteria were identified. Finally, a community surrounded by nothing but cocoa farms at a distance of about 10 km from Goaso was chosen. The community, which for anonymity will be refer to as the 'research' or 'case study' community, had the following characteristics.

Two SSC programmes operated in the community: the "open doors" Fairtrade- Cocoa Life programme and the "closed doors" Touton-PBC programme. Both programmes operated since the harvesting year of 2011-2012. Internal annual audits (i.e. controls conducted by the members themselves) were regularly conducted, however, by 2016 - the year of data collection- the case study community had not received any external audit for any of the two programmes. This was possible because not every single farmer and community is inspected during an external audit. Instead, auditors sample communities and farmers to assess the compliance of the entire cooperative or group, and in this case, the research community had not never been sampled. Within the framework of the Cocoa Life programme, three 'Susu' (informal loan) groups were operating in the community, providing small amounts of credit to their members. Beyond certification, three PCs were based in the village, while another three operated in the surrounding areas. PBC, the LBC previously owned by the state, ran a short-term cocoa storage facility in the village as well.

Most of the residents were third generation migrant farmers. The first migrants (i.e. the grand-parents of the current residents) arrived mainly from the Ashanti region in search of forest land to clear and plant cocoa. According to oral histories, they followed a spiritual leader who settled down by the river which crosses the community. Forest land was abundant at this time, so these first settlers were allowed to occupy as much land as they could clear and plant with the help of their relatives. No payments for land were involved at this stage, besides the traditional 'gifts' (usually a bottle of local spirit) to the local chief. At the time of data collection, and after three generations of cocoa farmers, the case study community was a village of around 100 constituents who were permanent residents. Nevertheless, there was also an undefined number of farmers with temporal residencies, while numerous smaller establishments, also known as Akuras

(villages in Twi) where spread around the community. These are settlements in the middle of large cocoa farms, usually at a considerable distance from the community and quite isolated from other settlements. Sharecroppers, landowners and their families tend to stay there while working on the farm, while they commute to the community for shopping and schooling. The population in the community and its surrounding areas was predominately of Ashanti origin, although there was also a significant part of Fantis and a growing population of northerners. The latter arrived mainly as labourers and sharecroppers, although some had already managed to transition to land ownership through abunu contracts (see also discussion in section 2.4).

In terms of infrastructure and services, the research community had a primary school and a Junior High School (JHS). Six small shops/ kiosks selling basic goods, a pharmacy, a mill and four bars selling local spirits were also operating in the community. Other services included a seamstress and several hair dressers. The village had no electricity nor mobile phone coverage and the road reaching the village was unpaved. There was no bus transport to the village neither, with villagers having to commute by private means or shared taxis. Regarding governance, at the time of data collection there was no official chief. Instead, all community issues were handled by the group of elders. There was a group of communal work, in which all the residents were expected to participate to maintain and/or improve the basic infrastructure in and around the community.

Finally, a group monitoring child labour issues was operating in the community by the farmers themselves. It is worth noting here that child labour, although apparently not widespread, was an issue of concern in the community, as the presence of a group monitoring the practice indicates. Cases of children not attending school during cocoa harvest were reported by the school's headmaster (private communication). Children were also involved in the transportation of logs illegally felled in the nearby forest reserve. Despite the important implications of child labour and illegal deforestation, particularly in the context of social sustainability standards, this study did not further explore these issues. This is because it was deemed that both issues, though relevant to an impact evaluation study, were beyond the scope of a study investigating selection

processes. Additionally, both issues were clearly taboo, particularly when it came to foreign researchers, as there could be implications for the funding of current or future projects in the community. Therefore, bringing up these subjects, even casually, could have created mistrust and undermined other aspects of data collection which were directly relevant to the core research questions this study had set out to explore. As a result, even though these issues were not avoided (i.e. during the structured interviews farmers were explicitly asked whether their children contributed labour to cocoa farming and in which ways, as well as they were asked to list any non-cocoa income sources), they were not further investigated neither. The view of this research is that these issues could not have been adequately explored in the margins of this study. This is because appropriate training, research design and methods are needed to properly investigate issues involving minors and illegal activities in order to ensure meaningful data collection as well as protecting vulnerable participants (like children) from any research resulting risk.

4.5.Data collection, management and analysis

4.5.1.Data collection methods

This study used a combination of quantitative and qualitative data collection and analysis methods. Fieldwork was undertaken in two phases: first, a one month scoping visit in July 2015 during which semi-structured interviews with cocoa, certification and aid industry professionals were conducted. Second, a fieldwork period of three months which focused on collecting data from cocoa farmers through structured and life history interviews, as well as focus groups. The data collection methods are outlined below.

- Semi-structured interviews

A total of 43 focussed semi-structured face-to-face interviews were conducted with key actors of the cocoa-chocolate (chocolate manufacturers, cocoa traders and processors, multi-stakeholder industry institutions, LBCs), certification (standard setters, auditing companies and private consultants), aid (NGOs, national aid agencies, UN

organisations), COCOBOD staff and research actors, as well as with representatives of producers organisations (see Appendix 2). These interviews were based on a mental list of topics that needed to be covered (Bernard, 2006), such as the interest of the particular actor in SSC and his/her perception of how placement, targeting and selection processes occur. Professionals of different sectors were identified through snowballing from initial contacts provided by scholars and NGO professionals working in the UK and in Switzerland as well as key informants in Ghana. The aim was to include professionals from as diverse organisations as possible in order to gain a broader perspective of the actors involved in the Ghanaian cocoa sector, and to capture their different interests in certification and how these influence the selection mechanisms. These interviews were conducted in English without research or translation assistance during the two data collection rounds (July 2015 and February 2016). Insights from the first round of interviews were used to inform the research questions, scope and design. Data from both rounds were used to gain a broader understanding of the national context and particularly to inform the analysis on SSC placement determinants (i.e. RQ1).

- Structured interviews

Structured interviews, in the form of a questionnaire, were conducted with 32 cocoa farmers (land owners and sharecroppers). Farmers were purposefully snowballed according to their distinctive characteristics in terms of gender, landownership status (i.e. owners, tenants, sharecroppers), particular socio-economic status (e.g. PCs buying in the community or board members of a certified group) and certification status (members of a certified group, non-members and drop outs). These interviews were conducted in Twi with the help of an interpreter. Collected data were used to address questions regarding participant eligibility and selection into SSC (i.e. RQ2 and RQ3). The questionnaire used for the structured interviews can be found in Appendix 3.

- Life history interviews

Life history interviews can uncover events with multiple causation and complex interactions, providing rich contextual and historical data on how “the ordering of a sequence of events” can result in certain outcomes (Davis, 2009:154), such as

participation into SSC programmes. The method has been used to collect data that tends to remain invisible to quantitative methods, such as life trajectories, economic empowerment and poverty dynamics (Davis, 2009; Sender, Oya and Cramer, 2006; Locke and Lloyd-Sherlock, 2011; Oya, 2007). In this study, the aim was to identify key common patterns, i.e. significant periods in the life of an individual as well as triggering events, as suggested by Fitzhugh, Butts and Pixley (2015), in the trajectories towards land ownership status, which could inform issues of targeting and eligibility (i.e. RQ2).

Life history data were provided by the same farmers who participated in the structured interviews. Nevertheless, the two interviews were conducted separately in two rounds of sixty to ninety minutes each, with a time gap between the two rounds of several days or even weeks. As with the structured interviews with farmers, life histories were conducted in Twi, with direct interpreting. The process broadly followed guidelines by Wengraf and Chamberlayne (2006). Farmers were given a brief introduction on the purpose of the interview and were then asked to tell their life story, focusing on the experiences and events which were important in their trajectories as cocoa farmers. Some short guidelines were given (e.g. you can start wherever you like, please take your time, we will listen first without interrupting, we will take some notes in case we have further questions for after you have finished). This was followed by a short demonstration based on the researchers' lives (e.g. "my name is Dafni, I was born in France where my parents were working, but when I was two years old I moved with my mother to Greece. My mother was a teacher and she was away during the day, so I spent a lot of time with my grandmother…"). After that participants were left to speak about their lives without further interruptions or guidance. This allowed focusing on the aspects of their lives that they deemed important, and deciding themselves how much to elaborate on each aspect. Once the life account was completed, some probing questions were asked in order to fill in gaps and to clarify unclear points. These questions focused on better understanding how farmers first got involved with cocoa farming; how they first obtained access to land to farm cocoa (whether as owners or as farm operators); how they accumulated the human, social and economic capital needed to obtain land entitlements and finally upgrade to ownership status; what were their expansion strategies once the land ownership status was acquired; and finally, what were their

plans for the future in regards to cocoa farming. The overall aim was to identify at which point of their farming trajectories and how farmers becomes eligible to participate in a SSC programme. The protocol used for conducting life histories can be found in Appendix 4.

- Focus groups

Focus groups were used as a strategy to generate data through the interaction between research participants (Kitzinger, 1995). Three focus groups were conducted, each with approximately eight participants: one with male land owners, one with male sharecroppers (landless or in process of acquiring land through abunu contracts) and one with female farmers regardless of land ownership status. Participants were mainly sampled from the groups of farmers that participated in the structured and life history interviews.[15] This is because the familiarity built with the informants during the interviewing phase could facilitate and enhance data disclosure during the focus groups. Conducting the focus groups with the same farmers also allowed further triangulation on the farmers socio-economic status in relation to their participation in certification programmes. The focus groups were conducted in Twi with direct interpretation. Data from the focus groups were used to gain deeper insights of the role of cocoa the farmers' livelihoods and farmers' perceptions of a "good life". Links were then drawn to cocoa farming and the role of certification. Specifically, issues of eligibility to enrol in certification programmes (i.e. which farmers are perceived as eligible?) as well as distributional dynamics (i.e. which farmers are perceived to benefit more or less from certification) were raised and discussed. Findings were used to inform RQ2 and RQ3.

- Secondary data: survey, archives, SSC programme documents.

This research draws on several secondary data sources. First, survey data collected by the first round (2002) of the Ghana Cocoa Farmers Survey (GCFS) (Zeitlin, 2018) were used to inform the quantitative analysis of the thesis. The GCFS, a collaborative research project between the Centre for the Study of African Economies (CSAE) at the

[15] Farmers who had not participated in the two rounds of interviews but showed interest in participating in the focus groups were allowed to take part in the process.

University of Oxford and the COCOBOD, is a panel data survey which collected a series of socio-economic data at the farmer level over five rounds of data collection (2002, 2004, 2006, 2008, 2010) in three regions of Ghana: Ashanti, Brong Ahafo and Western (see Figure 4 for a map of Ghana's cocoa growing and administrative regions). The original sample (497 farmers) was drawn as a random selection of households which identified cocoa farming as an income source in the Ghana Living Standards Survey (GLSS) 4 of 1998/99 (Teal, Zeitlin and Maamah, 2006; CSAE and COCOBOD, 2006). Farmers come from 25 villages from the GLSS sample which were selected with probability proportional to the size of the cocoa-farming population in each village (ibid).

Second, secondary data on cocoa purchases volumes from 2010 to 2015, broken down by region and LBC, were kindly provided by the Cocoa Health and Extension Division (CHED) of COCOBOD. Additionally data on the presence of certification programmes were compiled combining several secondary sources. A list of certification programmes operating in Ghana was kindly provided by the Platform Coordination Unit (PCU) of COCOBOD. This was complemented by information retrieved from UTZ on UTZ certified cocoa producers (UTZ, 2018d) and Agro-Eco Ghana (Agro Eco, no date). Although it is not possible to ensure that the compiled dataset covers every single certification programme currently operating in Ghana, it should provide a fair representation of where the focus of certification and commercial activity is currently encountered. Unfortunately, due to the commercial sensitivity of the information, it was not possible to acquire data on the number of farmers involved in each programme or the volumes of certified cocoa produced. Finally, information from the membership lists of the two SSC programmes operating in the case study community were used to explore how farmers become eligible to participate in SSC programmes (RQ2).

4.5.2. Data management and analysis methods

Interviews with cocoa, certification and aid industry professionals and farmers, as well as focus groups were recorded with the permission of the interviewees while written notes were also taken. Following Braun and Clarke (2006), the recordings of all

interviews and focus groups were transcribed into written form and merged with fieldwork notes which provided contextual information on the process of data collection.[16] Structured and life history interviews were combined into one document, creating a 'farmer profile' for each respondent. Overall, the transcription process allowed a further familiarisation with the data and the generation of an initial list of possible codes and themes. To protect the identity of all the research participants, both industry informants and farmers, real names have been anonymised and replaced by pseudonyms (see Appendix 2 for a list of interviewed industry informants and Appendix 5 for a list of interviewed farmers).

In terms of data analysis, the first step was to become "intimately familiar" with each subunit case, by producing detailed, within-case descriptions that were central to the generation of the first insights (Eisenhardt, 1989: 540). This was followed by cross-case comparisons that sought to identify emerging pattens in terms of selection processes. Following Eisenhardt (1989), data were analysed by data source, separating qualitative from quantitative data. Qualitative and quantitative analyses were sequenced in different ways to inform one another (see section 4.3). Then, emerging patterns were compared to examine whether findings corroborated or diverged. Converging evidence from multiple sources was highlighted to strengthen the findings, while in the case of conflicting evidence, possible explanations from other data sources were sought to explain the phenomenon. As a general rule, collected data were interpreted within the broader political and cultural context of the interview and not as an unmediated expression of the respondent's opinion, as suggested by Houtkoop-Steenstra (2000). In particular, the following data analysis methods were used.

- Thematic analysis

Thematic analysis (TA) is a widely-used qualitative analytic method used for "identifying, analysing, and reporting patterns (themes) within data" (Braun and Clarke,

[16] Life history transcripts were provided by the interpreter who assisted the interviews, however, I undertook the task of listening the recordings and adding missed details and clarifications in the transcripts.

2006:6).[17] In this research it was used to report "experiences, meaning and the reality of participants" (ibid: 9). In particular it was used to analyse data from semi-structured, structured and life history interviews, as well as focus groups in order to identify patterns in terms of industry stakeholders perceptions on programme placement determinants, farmers' trajectories towards eligibility to participate in SSC programmes, and external and self-selection processes (i.e. to inform all three research sub-questions).

Transcripts were then introduced into Nvivo and the full texts were coded following a 'theory-driven' process during which the data was approached and coded with the predetermined research questions in mind. In order to address the eligibility question, for instance, data were coded with the intention to identify significant points in the lives of farmers that allowed them to upgrade from sharecropping to land ownership. Regarding selection processes, data were approached with the intention to identify key events and experiences that lead to membership status, or on the contrary, that resulted in the farmer abstaining from joining the certified group. In parallel, data extracts that could inform the broader research context were also coded during this phase, emulating a 'data-driven' process. In general, during this still explorative phase, data was coded for as "many potential themes/patterns as possible" to capture all the themes that could prove of interest later (Braun and Clarke, 2006:19). Once all the transcripts were coded, codes were reviewed and grouped under potential themes, by comparing and contrasting different codes and combining them under broader themes. Themes were then reviewed and further merged, or broken down in order to create a set of clearly distinct themes, before proceeding with the writing of the analysis.

- Content analysis

Content analysis (CA) is an analytical tool that takes a systematic approach to the coding and categorising of large amount of textual information in order "to ascertain the trends and patterns of words used, their frequency, their relationships and the structures,

[17] According to Braun and Clarke (2006:10), a theme captures something important about the data in relation to the research question, and represents some level of patterned response or meaning within the data set.

contexts and discourses of communication" (Grbich, 2012:190). The method is recommended for making sense of large amounts of textual data, such as open-ended interviews (Weber, 1990). In this research it was used to analyse the semi-structured interviews conducted with industry stakeholders and to qualitatively explore determinants of programme placement (i.e. RQ1), as perceived by the informants. In particular, the analysis aimed to address the following questions:

A. What are the placement determinants of certified cocoa mentioned?

B. How often are they mentioned?

C. What is the relation, if any, between the placement determinants mentioned and the actors' role on SSC (i.e.funding, implementing, facilitating, etc.)?

The analysis provided numerical data on the frequencies by which placement related codes appear in the transcripts. The results served as a basis to incorporate thematically analysed data and to place the findings into the broader context of cocoa SSC programmes (Grbich, 2012). The overall rationale for using content analysis was to further elaborate on the initial findings of the thematic analysis by visualising the frequency of the identified codes, and themes in connection to the specific function of the actors that referred to each placement determinant. The method typically consists in dividing the text into "meaning units" which are labelled with codes and grouped into categories and then the quantification of these codes (Graneheim and Lundman, 2004:106; Kracker and Wang, 2002). Quantification involves counting and tabulating the codes under the same theme (or sub-theme) in order to "summarise what is known about the data" and then interpret the emerging pattern (Morgan 1993:115). In this case, the 'meaning unit' consisted of interview text about how cocoa certification programme placement is determined in the Ghanaian context. The informants- cocoa, aid and certification industry actors- were exposed to the aims of the research and then asked (once) about how decisions related to programme placement were taken (see Appendix 6 for a detailed list of informants). The transcripts of their answers (n=19) were used to inform the content analysis. The coding process focused on identifying main themes (i.e. what placement determinant the informant talked about) and sub-themes (i.e. how

was this placement determinant talked about). Given the lack of pre-existing knowledge or theories on the issue, codes were derived from the data through an open coding process that allowed for new codes, sub-themes and themes to emerge throughout the process (Elo and Kyngäs, 2008). While coding, the aim was to maintain a low level of interpretation and be as faithful as possible to the original expressions of the informants, as recommended by Vaismoradi, Turunen and Bondas (2013). Nevertheless, the process of creating categories and grouping bits of data under the same category inevitably involves interpretation, and therefore also the risk of misinterpretation (Dey, 1993).To minimise this risk, the "original context" from which the data came was taken into consideration (ibid:138). This is why the 'meaning unit' should be a single phrase or a larger passage of the interview text that could be coded as a single placement determinant, but not isolated words. Using the Nvivo codes, the bits of text about participants' views and experiences on how programme placement occurs were brought together into one excel sheet. The extracted text was then revised and the codes were re-organised and re-labelled accordingly, merging or breaking down into new ones, as necessary. This was a complex process, as categories could be interlinked and overlapping. If more than one placement determinant was identified in the same phrase or passage, then the passage was coded multiple times under the corresponding codes of placement determinant. The various codes were then "compared based on differences and similarities" and grouped into ten sub-categories and four categories, as suggested by Graneheim and Lundman (2004: 108). An example illustrating this process is provided in the Appendix 7. Overall, care was taken to exclude form the analysis text which was generated as a reply to a clarifying question in order to avoid inflating the frequency of a theme by counting repetitive answers.

- Correlation and probit regression analysis

Descriptive statistics (DS) were used to quantitatively explore possible correlations between cocoa volumes and programme placement (i.e. to inform RQ1), as well as to describe the data resulting from the GCFS data set. Furthermore, t-tests were used to investigate placement and selection determinants (i.e. RQ1 & RQ3). The results were not only used to show possible correlations, but also to inform the probit regression

models on placement and selection determinants. Probit models are widely used to study data with binomial distributions (Liao, 1994). In this case they were used to study SSC programme placement (taking the values 0 for programme absence and 1 for programme presence) and SSC programme membership (taking the values 0 for a non-member farmer and 1 for a member). This was possible using data from the first round of the GCFS which contained a binary variable on the presence of the Fairtrade cooperative / LBC Kuapa Kokoo in the villages were the survey took place, and a second one on whether the respondent was a member or not of the cooperative (CSAE & DFID, 2002).[18] Given that in the early 2000s Kuapa Kokoo was the only cooperative/ LBC producing and sourcing certified cocoa in Ghana, the commercial activity of Kuapa Kokoo in a certain area (or the absence of it) can be used as proxy of certification presence or absence, since no other SSC programme was operating at that time. These two variables allowed conducting a new analysis of the data collected in 2002 using probit models to quantitatively explore factors that can significantly determine the placement of Kuapa Kokoo, as well as farmers' membership in the cooperative (i.e. participant selection). Unfortunately, relevant data were only collected for the first year of the survey, which prevented conducting a panel data analysis.

To sum up, Table 4 summarises the methods used to collect and analyse data, and details the number of responses when applicable. It also indicates how collected data was analysed and which research questions were informed by the analysis.

[18] The first round of the survey was conducted in 2002 by Marcela Vigneri (Zeitlin, 2018).

Table 4: Summary of data collection and analysis methods

Data collection method	Data source	N of respondents	Data analysis method				Research question addressed		
			TA	CA	DS	Probit	RQ1	RQ2	RQ3
Semi-structured and un-structured interviews	Cocoa-chocolate, certification and aid industry professionals	43	X	X			X		
Structured interviews	Cocoa farmers	32	X					X	X
Life histories	Cocoa farmers	32	X					X	X
Focus groups	Cocoa farmers	24(8x3)	X					X	X
Secondary survey data	Ghana Cocoa Farmers Survey	492			X	X	X		X
Cocoa production and certification records	Cocobod; Standard Setting Bodies; NGOs	n/a			X		X		
TA= Thematic Analysis, CA= Content Analysis, DS= Descriptive Statistics, Probit=Probit regression model									

4.6.Challenges, limitations and ethical considerations

4.6.1.Challenges and limitations

The research encountered the following challenges and limitations during data collection and analysis. First, obtaining secondary data from actors involved in the implementation of SSC programmes proved to be practically impossible. Particularly when commercial actors were involved in the funding and implementation of the programme, such as cocoa traders or LBCs, information that could reveal the specific scale of the certification programme (i.e. number of participant farmers, hectares of certified land, volumes of certified cocoa produced, exact location of programmes, etc.), was considered to be commercially sensitive. Informants, whether commercial or aid actors, were reluctant to disclose such data, fearing that disclosure could hurt their market competitiveness or that of their partners. As a result the collection of data related to the presence of cocoa SSC programmes in the Ghanaian context was limited to information provided by the Project Co-ordination Unit (PCU) of COCOBOD, which at

the time of data collection was still compiling relevant data and therefore it is unclear to which extent the list is complete.Although publicly available information from certification bodies and NGOs was also used to complement data provided by PCU, it is not possible to ensure that the dataset on the presence of SSC programmes compiled by this research covers every single programme currently operating in Ghana. Collected data should , however, provide an indication of where the focus of certification activity is currently encountered.

Second, data collection could have benefited from additional information on each informant as well as a larger sample size. This research aimed at achieving "informational redundancy or theoretical saturation" (Sandelowski, 1995:179), however, it is acknowledged that time and resource constraints discussed in section 4.2 may have prevented exhaustive data saturation. During fieldwork it was observed that the quality of the collected data significantly increased during the life history interview. This may be related to the specific character of life histories which encourages participants to "open up" (Francis, 1992:93, cited by Oya, 2007). Another possible explanation is that fact life histories were conducted during the second encounter with the farmers and therefore in a context of increased familiarity and trust between 'insiders' and 'outsiders'. For example, it was common for farmers to report more farms and to disclose more details on how they came to possess or manage these farms (i.e. exact amounts paid to enter abunu contracts) during the life history interviews than they had done during the first, structured interview. The second round therefore, not only served to collect new data, but also to triangulate, and possibly correct data provided during the first round. It is therefore likely that a third round of data collection would have improved the accuracy and richness of the collected data, by allowing to gather complementary information, fill in gaps in the life stories and further clarify conflicting accounts.

The fact that data collected during the first, structured interview with farmers often proved to be inaccurate introduces doubts also on the validity of the GCFS survey data used by this research (and in fact, of any survey data collected in a similar context). The level of trust in the GCFS survey data is further undermined by the lack of publicly

available information on the details of the survey rollout process. For instance, it is unknown how many enumerators participated in the survey or how these were selected, trained or supervised. Information about the exact or relative location of the villages and farms (e.g. their distance from main roads and markets, or from nature reserves) is also missing, preventing judgements about the geographical coverage of the survey (i.e. the extent to which more remote communities and farms were covered). Besides the potential geographical bias that this implies, the lack of such information also constrained the secondary analysis. In the case of programme placement, for instance, the specification of the probit model could have benefited by the inclusion of variables related to the location of the village in relation to surrounding infrastructure (roads, schools, hospitals, main towns and markets). Such variables were suggested to be significant by the content analysis, however, due to the lack of relevant variables in GCFS dataset, it was not possible to test and corroborate these qualitative findings using quantitative methods. Moreover, the motivation for including a variable on Kuapa Kokoo membership only in the first round is also unclear (i.e. why ask specifically about membership to Kuapa Kokoo and not other cooperatives or POs? Why was this question dropped in the subsequent rounds?). The above observations indicate that any findings based on the GCFS data should be interpreted with caution and ideally in combination with other sources of data. For this reason, the GCFS dataset was used as a complementary source of information, but not as a stand-alone answer to the questions raised by this thesis. Nonetheless, the dataset provided indicative statistics which allowed identifying potentially important themes. Qualitative observations were then systematised around those themes, as suggested by Jick (1979). The GCFS dataset also served to validate (or contradict and therefore raise further questions) qualitative findings, as suggested by Adato (2007).

Finally, although selecting research participants purposively, often using snowballing techniques, ensured that enough variation was included in the sample (Ritchie, Lewis and Elam, 2013), the possible presence of selection bias undermines the external validity of the findings (van Meter, 19990; Atkinson and Flint, 2001). Although the use of quantitative methods aimed at counter balancing this limitation and adding breadth

through generalisability (Palinkas et al., 2015:534), it should be acknowledged, that qualitative findings based on purposeful sampling are vulnerable to selection bias.

4.6.2.Ethical issues

A rigorous protocol, approved by the UEA International Development Research Ethics Committee, has been followed throughout the research. All research participants were informed about the research objectives and use of data collected prior to any data disclosure and informed consent was sought from all the research informants. Care was taken to minimise the risk of informants perceiving participation in the research as an "obligation" to satisfy their land owners (in case of sharecroppers or tenant farmers), local leaders, and buyers, or managers (in the case of industry stakeholders). To do so, at the beginning of each encounter with each research participant the objectives of the research were clearly stated and it was reiterated that no other private interests were related to this independent research project. Particularly during interviews with industry professionals it was clearly stated that the study was not an impact evaluation of SSC initiatives (i.e. of their work), that could have intimidating effects, but an exploration of how farmers select into certification. At the community level, time was invested in building relations of familiarity and trust with the local population and thoroughly explaining the purpose of the researcher's presence in the community. Informal chats prior to the interviews, as well as small 'gifts' were used to build personal relationships with the informants. A refreshment or a snack was offered during interviews, while any photos taken of the participants (always with their consent) were printed and given to them as a small "thank you" for their participation in the research. It is important to note that farmers also often offered small gifts in appreciation, such as fruits and plantain from their farms, or occasionally lunch. No direct money payments were involved during fieldwork, with the exception of one preliminary visit , where refreshments were provided to the whole group.[19] Finally, care was taken to ensure privacy during interviews and safeguard confidentiality. No disclosed information was shared in any way with other farmers and/or actors of the cocoa and certification industry. Data that

[19] Payments and incentives in exchange of data disclosure were directly requested by one group of farmers during a preliminary, pilot visit in a community. Refreshment were provided in that occasion, but the community was dropped from the research, partly due to this experience.

could reveal the identity of the informants were anonymised, including names of persons, companies and specific research locations. Approval by the local authorities and farmers' organisations was sought before undertaking fieldwork at the community level.

4.7.Conclusion

This chapter presented the methodological approach of this research. It began by outlining how the idea of exploring selection processes into SSC programmes first emerged and how the research was shaped by my personal and professional experiences. It became clear that becoming a mother while conducting this research had a significant impact both on re-adjusting the research focus as well as on the methods that I could use. Having to do fieldwork with a young child meant choosing data collection methods that could optimise my limited time on the field, such as life history interviews. The chapter then provided a justification for using a mixed methods design and discussed how primary qualitative data were combined with secondary quantitative data. The choice of approaching the research as a single case study with embedded sub-units was also discussed, outlining how the broader case (i.e. the Ghanaian cocoa sector) and the embedded sub-units (i.e. the three different SSC programmes covered by this research) were chosen. This chapter also reviewed how the research location was chosen and how data was collected, managed and analysed, providing a brief theoretical rationale for the choices made. Emphasis was placed on describing how these methods were implemented in order to provide the reader with the methodological background of the analytical chapters that follow. The discussion of the chapter then focused on the methodological challenges encountered and the research limitations. Issues related to data saturation, use of secondary data, sampling and external validity were highlighted. Finally, the chapter reviewed the ethical considerations related to the study, in terms of data disclosure, participant protection and research incentives. The next three chapters present the empirical analytical work of this study, with the following chapter exploring patterns of SSC programme placement and thus addressing RQ1.

5. Exploring programme placement

5.1. Introduction

Programme placement can be seen as a broader form of external selection of participants, where programme providers (i.e funding, implementing and facilitating actors) select the areas to implement a programme and therefore also the population from which participants will emerge. Self-selection also applies here, as communities or organised groups of potential participants may pro-actively engage with programme providers to have programmes implemented in their districts and villages (White, 2009). This chapter aims to unpack the placement process of cocoa SSC programmes in the Ghanaian context in order to gain a deeper understanding of which producers have access to certified groups of farmers and therefore can potentially participate in, and benefit from, certified markets. In doing so, it addresses the first sub-question of the thesis (RQ1):

How is the placement of cocoa SSC programmes determined?

The chapter is structured as follows. Section 5.2 presents a descriptive overview of the findings from the qualitative and quantitative analyses. Section 5.3 integrates key qualitative and qualitative findings, focusing on points of convergence as well as disagreement between the two types of data. Finally, section 5.4 concludes.

5.2. Overview of main qualitative and quantitative findings

5.2.1. Main qualitative findings

Given the lack of pre-existing knowledge or theories on the placement of SSC programmes (see section 3.3.3.), the content analysis of interviews with cocoa, aid and certification industry informants served as a starting point for unpacking placement processes. The aim of the analysis was to identify, describe and classify key placement

determinants as perceived by the actors involved in the design and implementation of cocoa SSC certification programmes in the Ghanaian context (see section 4.6 for a detailed account of the analysis process). The analysis generated two measurements: (1) the number of informants reporting on a sub-theme and theme; and (2) the number of mentions of that sub-theme and theme.[20] The results are summarised in Table 5 (see p. 87) .

It can be observed that the themes reported by most informants and most frequently are the availability of cocoa volumes, reported twenty-eight times by twelve informants (row 3, Table 5); the sourcing capacity of the buyer of certified cocoa, reported thirty times by ten informants (row 6, Table 5) and the business operationality of the programme, reported thirty-one times by ten informants (row 10, Table 5). These themes are clearly business-oriented and apply mainly to the cases of LBC-led SSC programmes with selling conditionality.[21] They consist of the following sub-themes. First, the 'availability of cocoa volumes' includes the cocoa production capacity of a specific location but also the concentration of cocoa volumes across neighbouring areas. Second, the 'sourcing capacity' of the LBC involved in the programme refers to the ability of the LBC to buy the required volumes from a certain area, but also the use of certification as a tool for attracting more farmers and hence increasing and/or protecting its market share. Third, the 'business operationality' includes sub-themes on the role of partnerships and networks between LBCs and NGOs in determining placement; the choice of strategic areas in terms of programme future expansion; and the operational costs involved in the production and sourcing of the certified beans. Farmer-centered themes were reported by less informants and less frequently. For instance the funder's and/or implementer's mission or Corporate Social Responsibility (CSR) aims were reported ten times by four informants (rows 11, Table 5), while the farmers' ability to attract certification (i.e.farmers' interest in the programme and willingness to adopt and

[20] The mean of mentions is estimated as follows: mean= number of mentions/number of participants mentioning.

[21] The reader is reminded that selling conditionality refers to programmes where participants are requested to sell their certified production to a specific PC/LBC associated with the SSC programme (see section 2.5)

comply with the standards) were reported seven times by six informants (rows 12, Table 5).

Table 5: Results of content analysis

	Placement determinants			Informants (n=19)		Mentions	
	Themes	Sub-themes	Codes included	N	%	N	Mean
(1)	Availability of cocoa volumes	Cocoa production capacity	Local cocoa production capacity ; soil fertility; age of trees	8	42.1	20	2.5
(2)		Concentration of cocoa volumes	Concentration of farms; farm size	5	26.32	8	1.6
(3)	**Availability of cocoa volumes total**			**12**	**63.16**	**28**	**2.33**
(4)	Sourcing capacity	Capacity to source volumes	LBC capacity to source volumes and to match volumes to demand; farmers' commercial loyalty; side-selling & smuggling	10	52.63	25	2.5
(5)		Market competition	Improve market share; competition between LBCs	3	15.79	5	1.67
(6)	**Sourcing capacity total**			**10**	**52.63**	**30**	**3**
(7)	Business operationality	Partnerships & networks	LBC & NGO existent networks and partnerships	6	31.58	9	1.5
(8)		Strategic areas	Strategic areas for businesses and expansion	3	15.79	4	1.33
(9)		Operational costs	Operational costs; Vicinity and accessibility	8	42.10	18	2.25
(10)	**Business operationality total**			**10**	**52.63**	**31**	**3.1**
(11)	Mission/ Corporate Social Responsibility aims		Mission; environmental criteria; community needs; CSR and NGO objectives	4	21.05	10	2.5
(12)	Farmers' ability to attract certification		Farmers' compliance with standards & interest in certification	6	31.58	7	1.17

Source: Author's creation based on primary data

Some initial conclusions can be drawn from these findings. First, at least according to the perception of the actors informing this analysis, cocoa SSC programmes are placed mainly using business-oriented criteria. Farmer- centred or community development criteria, although taken into consideration, appear to play a secondary role in influencing placement decisions. Second, the cocoa production capacity of a certain location, mentioned twenty times by eight different informants, appears to be an important determinant (row 1, Table 5). Nevertheless, even more important is the capacity of the LBCs involved in SSC programmes to overcome the market competition and source the certified cocoa, mentioned twenty-five times by ten informants (row 4, Table 5). In fact, combined with the operational costs of programme implementation and cocoa sourcing, which was mentioned eighteen times by eight informants (row 9, Table 5), it becomes clear that the capacity of the LBC to physically obtain the certified beans while maintaining operational costs low weighs more in placement decisions than the volumes of cocoa beans that a certain area can produce.

Drawing on the ANT approach outlined in section 3.2.2, it is worth exploring how placement determinants are perceived by different actors in relation to their role in SSC programmes (illustrated in Figure 5) and hence their own interests (Mosse, 2005; Scott-Smith, 2013). Table 6 presents the results of the content analysis disaggregated by actors who are (mainly) implementing SSC programmes at the local level, in this case LBCs, NGOs and the COCOBOD,[22] and stakeholders who are not involved in the implementation, such as funders (i.e. cocoa processors and traders, chocolate manufacturers) and certifying organisations.

[22] The reader is reminded that in some case COCOBOD provides extension services to SSC programmes.

Table 6: Results of content analysis by actor category

		Actor category									
		Implementing actors						Funding and certifying actors			
		LBCs		NGOs		COCOBOD		Cocoa & chocolate companies		Standard setters and auditors	
	Placement determinants	I (n=4)	M	I (n=6)	M	I (n=2)	M	I (n=3)	M	I (n=4)	M
(1)	Availability of cocoa volumes	1	2	4	12	1	1	2	6	4	7
(2)	Sourcing capacity	3	7	3	10	0	0	2	7	2	6
(3)	Business operationality	3	7	4	15	1	2	2	4	1	3
(4)	Mission/ CSR aims	0	0	1	2	0	0	1	1	2	7
(5)	Farmers' ability to attract certification	2	3	3	3	0	0	0	0	1	1

I= Informants ; M=Mentions
Source: Author's creation based on primary data

It can be observed that sub-themes related to the availability of cocoa volumes were mentioned by all the actors, both implementers and non-implementers (row 1, Table 6). Nevertheless, professionals more directly involved in implementing SSC programmes clearly commented more often on issues related to 'business operationality'. For instance three out of four informants working for LBCs made a total of seven mentions, and four out of six informants working for NGOs commented on the same point fifteen times (row 3, Table 6). This possibly reflects the interest of implementing actors in placing programmes in a way that economises efforts and money, while funding and certifying actors were clearly less concerned about this aspect of programme placement. Professionals working for LBCs and NGOs also commented more on farmer-driven placement factors (six mentions in total), than professionals from funding and standard setting actors (one mention in total - see row 5, Table 6). This may suggest implementers' interest in minimising risks of non-compliance, mainly farmers side-selling the certified cocoa which can also cause financial losses to their organisations.

On the other hand, social or environmental factors that would justify implementing a SSC programme in a certain location, such as child labour or deforestation, were reported to a greater extent by funding and certifying actors (eight mentions by three informants), than by implementing actors (two mentions by one informant, see row 4, Table 6). This can be linked to the interests of the first in improving their corporate image and protecting/increasing their market share through investments in SSC programmes.

5.2.2. Main quantitative findings

The findings of the content analysis presented above were used to empirically inform the quantitative analysis of placement determinants. In combination with the availability of explanatory variables provided by the GCFS data set,[23] a probit model was specified to explore the existence of systematic differences in farmer observable socio-economic characteristics between areas with and without access to certification. The presence of the Fairtrade cooperative Kuapa Kokoo was used as a proxy of access to certification because at the time of data collection Kuapa Kokoo was the only cooperative/LBC producing and sourcing certified cocoa in Ghana (see section 2.5). Following the key certification placement determinants summarised in Table 5, the model considers variables related to the availability of cocoa volumes (production volumes, farm size) and LBCs' sourcing capacity (number of buyers used by the farmer and of other LBCs operating in the farmer's village).[24] Drawing on the SRL framework, it also considers livelihood assets that can influence farmers' ability to attract SSC programmes. For instance, the years of farmers' residency in the farming village and their education level can reflect farmers' social and human capital and hence the ability of local communities to actively seek SSC services. On the other hand, household size, labour practices, investments in cocoa farming and other sources of wealth (e.g livestock, non-cocoa income) are livelihood assets that can influence farmers' capacity to comply with the standards. Finally, it considers variables that could be linked to the mission/CSR objectives of programme funding and implementing actors, such as women's

[23] See section 4.5.1. for more details on the GCFS dataset

[24] The variable related to the number of LBCs in village excludes Kuapa Kokoo.

participation, and child labour. Unfortunately, no variables that could inform aspects of the business operationality were provided by the GCFS dataset. For example, there were no variables related to the accessibility of the respondent's farm (e.g. road infrastructure, distance form markets or urban centres, etc.). A description of the variables used to model farmers' access to Kuapa Kokoo is provided in Appendix 8. The probit model used to estimate the probability that a farmer has access to Kuapa Kokoo is specified as follows:

$$Pr(Kuapa\ Kokoo\ access = 1) = \beta_0 + \beta_1 \text{ cocoa sold (kg)} + \beta_2 \text{ cocoa plot (ha)} + \beta_3 \text{ years in village} + \beta_4 \text{ buyers (n)} + \beta_5 \text{ LBCs in village (n)} + \beta_6 \text{ child labour (days)} + \beta_7 \text{ savings (1 = yes)} + \beta_8 \text{ gender (1 = male)} + \beta_9 \text{ years of schooling} + \beta_{10} \text{ household size} + \beta_{11} \text{ adult labour contribution (days)} + \beta_{12} \text{ caretaker (1 = yes)} + \beta_{13} \text{ non cocoa income (1 = yes)} + \beta_{14} \text{ livestock (n)} + u_i$$

Table 7 presents the cross-tabulations of farmers with and without access to Kuapa Kokoo across the three regions covered by the GCFS dataset. The percentage of farmers with access is higher in the Ashanti region (78% of the sample), followed by the Western region where the same percentage is 57%.[25] On the contrary, Kuapa Kooko appears to have less presence in the Brong Ahafor region, where only 38% of the farmers had the possibility to sell to the Fairtrade certified LBC.

Table 7: Cross-tabulation of farmer categories by region

	Non-access		Access		Total	
Region	N	%	N	%	N	%
Ashanti	26	22.03	92	77.97	118	23.98%
Brong Ahafo	69	62.16	42	37.84	111	22.56%
Western	113	42.97	150	57.03	263	53.46%
Total	208	42.28	284	57.72	492	100

Source: Author's creation

Descriptive statistics for the explanatory variables are provided in Table 8.

[25] The reader is reminded that a map of the cocoa producing areas in Ghana can be found in section 2.3.

Table 8: Descriptive statistics of explanatory variables, full sample.

		Full sample				
Row		Obs	Mean	St.dev	Min	Max
(1)	Cocoa sold (kg)	439	1275.5	1458.2	5	11875
(2)	Area of cocoa plot (ha)	492	6.252	5.888	0.135	40.06
(3)	No of buyers	492	1.4532	0.7105	1	6
(4)	No of LBCs in village *	492	3.189	1.437	1	6
(5)	Years in village	489	38.714	19.791	1	98
(6)	Savings (Yes:1)	491	0.4603	0.4989	0	1
(7)	Years of schooling	490	6.563	4.691	0	16
(8)	Household size	492	6.829	2.667	1	14
(9)	Adult household labour (days)	480	83.50	111.36	0	786
(10)	Caretaker (Yes:1)	489	0.2719	0.4454	0	1
(11)	Non cocoa income (Yes:1)	466	0.8541	0.3534	0	1
(12)	No of Livestock (sheep & goats)	492	4.6910	9.5536	0	80
(13)	Household head Sex (Male:1)	491	0.831	0.375	0	1
(14)	Child labour (days)	491	8.277	28.177	0	320

* Includes Kuapa Kokoo

Source: Author's creation

It can be observed that that the average farmer produces 1,275 MT of cocoa per year on a six ha farm, has been residing in the farming community for about thirty-nine years and has a primary school education level (see rows 1, 2, 5, & 7, Table 8). Households have about seven members and 83% of the sample is male-headed (see row 8 & 13, Table 8). In terms of labour use, the average farmer makes use of (adult) household labour eighty-three days per year, while 27% of the sample makes use of sharecropping labour (see rows 9 & 10, Table 8).[26] Farmers have reported relying much less on child labour, the elimination of which is a central topic in certification standards such as Fairtrade. The average use of child labour (children aged 5-14) reported is of eight days

[26] For a discussion on sharecropping arrangement see section 2.4.

per year with a standard deviation, however, of twenty-eight days (row 14, Table 8). Regarding selling strategies, farmers have on average access to more than three LBCs operating in their village, and sell their cocoa to more than one LBC per season (see rows 4 & 3, Table 8). 46% of farmers have reported saving for cocoa farming investments (row 6, Table 8), while 85% have other sources of income besides cocoa (row 11, Table 8). Ownership of livestock (sheep and goats) is common, but limited to 4 - 5 animals (row 12, Table 8). Table 8 also indicates that there are some data missing for some of the explanatory variables (e.g. cocoa sold, adult household labour, non-cocoa income). The effect of missing data in quantitative analysis can be serious, particularly if the omission of data is not random but systematic (Dong and Peng, 2013). Nevertheless, after investigating the presence of systematic patterns of missing data, it was concluded that missing data are random and therefore pose no validity risk to the analysis. A description of the investigation of missing values is provided in Appendix 9.

The breakdown of descriptive statistics by region (see Appendix 10) reveals important regional differences that could significantly influence certification programme placement. Overall, cocoa farming appears to be more intensified in the Western region where farmers have on average larger farms by one to two hectares which produce about 500kg more cocoa per season than in the other two regions. Additionally, they appear to save more for farming investments, while relying less on livestock and non-cocoa income sources. This apparent cocoa farming intensification probably also explains why in the Western region there is a higher presence of LBCs per village (3.6 versus 2.7 in the other two regions) and also a higher diversification of the selling channel, as farmers sell on average to more LBCs (1.5 versus 1.3 in the other two regions). In terms of socio-economic characteristics, farmers in the Western region appear to have on average smaller household size and more years of schooling than in the other two regions. Finally, labour-wise, farmers in the Brong Ahafo region present higher use of adult and child household labour, while the Ashanti region presents the higher percentage of sharecropping labour.

The analysis now turns to the exploration of placement determinants. Table 9 compares the mean characteristics of farmers with and without access to Kuapa Kokoo in the full sample, while Appendices 11, 12 and 13 provide the same information by region.[27]

Table 9: Mean characteristics by access status to Kuapa Kokoo, full sample.

			Non-access		Access		
		(1)	(2)	(3)	(4)	(5)	(6)
		Obs	Mean	St.dev	Mean	St.dev	t-test
(1)	Cocoa sold (kg)	439	1168.6	1357.35	1349.79	1522.5	-2.101**
(2)	Area of cocoa plot (ha)	492	5.651	5.554	6.692	6.093	-2.975***
(3)	N of buyers	492	1.327	0.564	1.55	0.789	-3.144***
(4)	N of LBCs in village*	492	2.3413	1.1180	2.8098	1.3235	-3.982***
(5)	Years in village	489	36.03	19.25	40.68	19.98	-2.428**
(6)	Savings (Yes:1)	491	0.4711	0.500	0.4523	0.498	0.1716
(7)	Years of schooling	490	5.412	4.877	7.398	4.374	-4.622***
(8)	Household size	492	6.375	2.758	7.162	2.55	-3.292***
(9)	Adult household labour (days)	480	79.338	123.039	86.49	102.286	-1.658*
(10)	Caretaker (Yes:1)	489	0.2163	0.413	0.313	0.464	5.66**
(11)	Non-cocoa income (Yes:1)	466	0.8325	0.374	0.871	0.336	1.342
(12)	N of Livestock (sheep & goats)	492	5.3846	8.7756	4.1831	10.0705	3.29***
(13)	Household head Sex (Male:1)	491	0.82	0.384	0.838	0.369	0.2398
(14)	Child labour (days)	491	9.1545	24.95	7.64	30.34	1.97**

* Excludes Kuapa Kokoo

Note: For the Wilcoxon-Mann-Whitney test, test statistic is z-score.

*** p<0.01, ** p<0.05, * p<0.1

Source: Author's creation

[27] The normality of continuous variables is tested with the Shapiro-Wilk normality test (Appendix 14). The hypothesis of normal distribution is rejected for all the variables and thus the Wilcoxon-Mann-Whitney (WMW) test, which does not assume normal distribution, is used to test for statistically significant differences in the mean values of continuous variables between farmers with and without access to Kuapa Kokoo. For categorical variables, the Pearson chi2 test is used to test for the statistical significance of the relationship between membership status and categorical variables.

The following statistically significant differences are observed (column 6, Table 9). Farmers with access to Kuapa Kokoo have on average larger farms by one ha, and produce 181 kg of cocoa more (rows 1 & 2, Table 9). Additioanlly, Kuapa Kokoo appears to operate in villages where farmers have more selling options and also diversify their selling channels more (rows 3 & 4, Table 9). Regarding characteristics that can influence farmers' ability to attract certification, results suggest that Kuapa Kokoo operates in areas where farmers have on average longer farming residencies by 4.65 years, two years more of schooling and households larger by 0.8 units (see rows 5, 7 & 8). Farmers with access to Kuapa Kokoo also reported 10 % more use of sharecropping labour (see row 10). When examining statistically significant differences by regions, it can be observed that Kuapa Kokoo appears to have entered areas with greater cocoa output per farmer, an average surplus of 361 kg in the Ashanti region and 96kg in the Western region (see Appendices 11-13, row 1). Farmers with access to Kuapa Kokoo in the Western region also have farms which are on average 1.9 ha larger (row 2, Appendix 13). Differences in cocoa volumes between access and non-access famers are not statistically significant in the Brong Ahafo region, where Kuapa Kokoo is present in areas with households which are larger by 1,7 units, farmers have on average four years more of schooling, and make 12% more use of sharecropping labour (see rows 7, 8 & 9, Appendix 12). Nevertheless, t-tests have limited information value in terms of unpacking placement issues, hence the probit analysis estimating the probability that a farmer has access to Kuapa Kokoo that follows.

Table 10 presents the coefficients, average marginal effects (AME) and robust standard errors in parenthesis of the variables found to be statistically significant.[28]

[28] AME are preferred here to the commonly used marginal effects at the mean (MEM), as they are considered "more appropriate for providing a realistic interpretation of estimation results", while MEM might refer to "either non-existent or inherently nonsensical observations", as in the case of dummy regressors (Bartus, 2005: 310). For continuous variables, the AME indicates by which percentage an unit change in a continuous variable changes the probability of the dependent variable becoming one , i.e. Kuapa Kokoo operating in a farmer's village. The same applies for dummy variables, the difference being that the change in the explanatory variable is from zero to one.

Table 10: Probit estimations (access to Kuapa Kokoo)

	Dependent variable: Farmer has access to Kuapa Kokoo (1=yes)								
		Full Sample (1)		Ashanti (2)		Brong Ahafo (3)		Western (4)	
		Coeff	AME	Coeff	AME	Coeff	AME	Coeff	AME
(1)	N of buyers	0.159	0.0546	0.860*	0.177**	0.167	0.0382	0.143	0.0470
		(0.0998)	(0.0340)	(0.473)	(0.0886)	(0.228)	(0.0515)	(0.126)	(0.0412)
(2)	N of LBCs*	0.199***	0.069***	0.247*	0.0509*	0.431*	0.0985**	0.374***	0.123***
		(0.0624)	(0.0207)	(0.137)	(0.0289)	(0.223)	(0.0495)	(0.094)	(0.0273)
(3)	Years in village	0.00636*	0.00219*	0.0153*	0.00315*	0.0061	0.00140	-0.0099*	-0.0032*
		(0.0037)	(0.0013)	(0.0087)	(0.0016)	(0.008)	(0.00191)	(0.006)	(0.0018)
(4)	Years of schooling	0.052.***	0.018***	0.0129	0.00265	0.126***	0.0287***	0.0343	0.0113
		(0.0156)	(0.0052)	(0.0397)	(0.0081)	(0.038)	(0.00718)	(0.024)	(0.0077)
(5)	Household size	0.0653**	0.0225**	-0.0469	-0.0097	0.214***	0.0489***	0.0730	0.0240
		(0.0299)	(0.0101)	(0.0671)	(0.0139)	(0.069)	(0.0151)	(0.047)	(0.0154)
(6)	Adult hh labour (days)	-0.0006	-0.00021	0.005*	0.00104*	-0.001	-7.95e-05	-0.0018*	-0.0006*
		(0.0007)	(0.0002)	(0.0028)	(0.0006)	(0.002)	(0.00037)	(0.001)	(0.0003)
(7)	Caretaker (Yes:1)	0.281	0.0960*	-0.342	-0.0722	-0.143	-0.0321	0.448*	0.144*
		(0.171)	(0.0573)	(0.385)	(0.0810)	(0.464)	(0.103)	(0.237)	(0.073)
(8)	N of Livestock	-0.0152*	-0.0052**	-0.0255	-0.0053	-0.041**	-0.0095**	-0.0036	-0.0012
		(0.0078)	(0.0026)	(0.0203)	(0.0040)	(0.018)	(0.00377)	(0.01)	(0.0032)
(9)	Hh Sex (Male:1)	-0.0130	-0.00447	-0.992*	-0.162*	1.007*	0.226**	-0.332	-0.116
		(0.189)	(0.0648)	(0.585)	(0.0702)	(0.516)	(0.102)	(0.280)	(0.085)
(10)	Constant	-1.64***		0.330		-4.742***		-1.288**	
		(0.364)		(1.137)		(1.085)		(0.502)	
	Obs.	396	396	92	92	87	87	217	217
	Pseudo R^2	0.1086		0.2528		0.3876		40.04	
	Wald chi^2	56.39		27.17		42.31		40.04	
	Prob>chi^2	0.0000		0.0183		0.0001		0.0003	
	% correctly predicted	65.66%		83.70%		81.6%		70.05%	

* Excludes Kuapa Kokoo. Note: Robust standard errors in parentheses for Probit Coeff. Standard errors in parentheses for Predicted. prob. *** p<0.01, ** p<0.05, * p<0.1

Column 1 reports the results for the full sample, while columns 2, 3 and 4 report the results on the Ashanti, Brong Ahafo and Western region accordingly. The following control variables were used but found to be statistically insignificant both across and within regions: cocoa sold, area of cocoa plot, savings, non-non-cocoa income and child labour. In order to avoid distractions from the statistically significant outcomes the results for these variables are provided in Appendix 15.

The model for the full sample correctly predicts 65.66% of the observations. While variables related to cocoa volumes have statistically insignificant coefficient values (see Appendix 15), the number of LBCs, other than Kuapa Kokoo, operating in the village appears to be statistically significant (Table 10, column 1). This means that for an additional LBC operating in one village, the probability of Kuapa Kokoo also operating in the area increases by 19.9% (see row 2, column 1, Table 10). In the Ashanti region alone this probability is enhanced also by the number of buyers used by a farmer within one season, as an additional buyer increases the probability of Kuapa Kokoo buying cocoa in the village by 17.7 % (row 1, column 2, Table 10).

In terms of variables that can influence farmers' ability to attract SSC programmes, farmers' years of residency in the farming village, years of schooling, household size and the use of sharecropping labour appear to positively increase the probability of Kuapa Kokoo operating in the area. In particular, an additional year of farmer's residency increases the probability of Kuapa Kokoo being commercially present in the village by 0.22% across regions and 0.31% in the Ashanti region alone, while it decreases the same probability by 0.32% in the Western region (row 3, column 1, 2 and 4, Table 10). An additional year of schooling increases the probability of Kuapa Kokoo operating in the farmer's village by 1.80 % across regions and by 2.87 % in Brong Ahafo alone (row 4, column 1 and 3, Table 10). Similarly, an additional household member increases the same probability by 2.25% across regions and by 4.9% in Brong Ahafo alone (row 4, column 1 & 3, Table 10). Interestingly, the presence of male-headed households decreases the probability of Kuapa Kokoo operating in the farmer's

village in the Ashanti region by 16.2 percentage points (row 9, column 2, Table 10).[29] The opposite, however, occurs in Brong Ahafo where the presence of male-headed households increases the same probability by 22.6 percentage points (row 9, column 3, Table 10). Finally, if the variable 'sharecropper' changes from zero to one, the probability for Kuapa Kokoo operating in the village rises by 9.6 percentage points across regions and by 14.4 percentage points in the Western region alone (row 7, column 1 &4, Table 10). In terms of adult household labour, an additional day increases the probability for Kuapa Kokoo operating in the village by 0.1%, while in the Western region it decreases the same probability by 0.06% (row 6, column 2 and 4, Table 10). On the other hand, an additional animal owned by the farmer decreases the probability of Kuapa Kokoo operating in the village by 0.522% across regions and by 0.947 % in Brong Ahafo (row 8, column 1 and 3, Table 10).

Overall, however, it is worth noting that despite being statistically significant, the marginal effects for most of the above variables are considerably low, the higher marginal effects being those regarding the number of LBCs and the use of sharecropping labour across regions, and that of household head sex for the Ashanti and Brong Ahafor regions.These quantitative findings, with all their converging and contradicting points, are further discussed along with the results from the qualitative analysis in the following section.

5.3.Integrated synthesis of key qualitative and qualitative findings

This section integrates quantitative and qualitative findings around the five key determinants of programme placement that were identified by the content analysis and have guided the multivariate analysis: (1) availability of cocoa volumes; (2) sourcing capacity; (3) business operationality; (4) farmers' ability to attract SSC programmes;

[29] It is noted that in the case of dummy variables, AME are expressed in percentage points (pp), which is the unit for the arithmetic difference of two percentages, instead of percentages (%) which indicate ratios.

and (5) mission/CSR objectives of the programme funding and implementing organisations.

5.3.1. Availability of cocoa volumes

The availability of cocoa volumes, both in terms of cocoa production capacity and concentration of cocoa volumes in a certain area is the third most mentioned of the key themes identified by the content analysis (see column 3, Table 6). We would expect, therefore, the GCFS data to point towards a strong relationship between the production of cocoa volumes and the presence of Kuapa Kokoo. Nevertheless, this is not being fully confirmed. While statistically significant differences are found in terms of cocoa volumes sold and farm size between farmers with and without access to the Fairtrade certified Kuapa Kokoo (see row 1 & 2, Table 10), the two variables are not significant in the probit model, neither across nor within regions (see row 1 & 2, Appendix 15).

Another way to quantitatively explore the link between availability of cocoa volumes and certification presence is by testing the correlation between average cocoa volumes purchased by COCOBOD between 2010 and 2015 by district and the data on the presence of certification programmes (see Appendix 16 for a list of certification programmes per cocoa district and per certification scheme). Given that the average cocoa purchases and the number of certification programmes are not normally distributed the Spearman's rank correlation coefficient is used to test for correlation, as suggested by Hauke and Kossowski (2011).[30] Results (Table 11) suggest a statistically significant, though weak, uphill correlation (r=0.32) between the presence of certification programmes and average cocoa purchases, which is illustrated in the scatter plot in Figure 9.

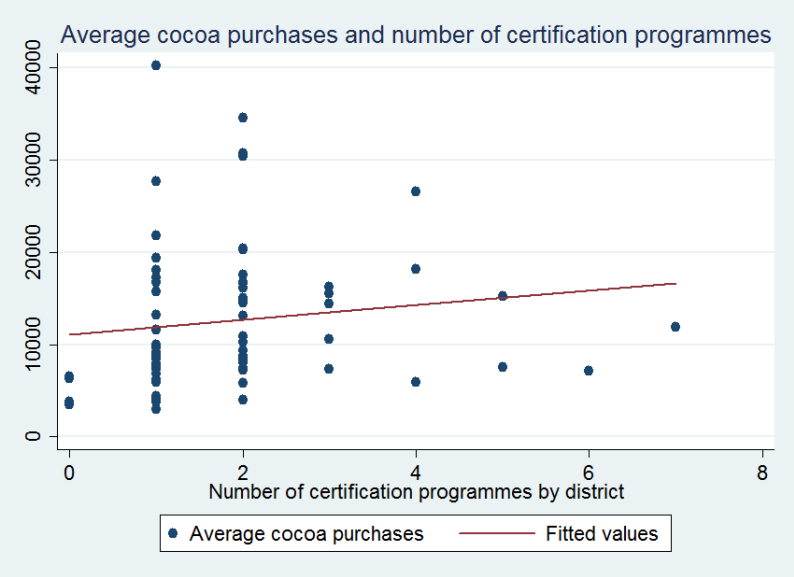
[30] See Appendix 17 for the results of the Shapiro-Wilk normality test

Table 11: Correlation coefficients: cocoa purchases & SSC programmes

	Average Cocobod cocoa purchases by district (2010-2015, MT)	Number of SSC programmes by district
Average Cocobod cocoa purchases by district (2010-2015, MT)	1.0000	-
N of SSC programmes by district	0.3237	1.0000
P value	(0.0071)***	
Observations	68	

*** p<0.01, ** p<0.05, * p<0.1

Figure 9: Cocoa purchases and number of SSC programmes per district



Source: Author's creation based on secondary data

A closer look at the insights from the content analysis suggests that the availability of cocoa volumes is the starting point for making placement decisions. The following quote highlights this point:

"So maybe to answer that question, there is what we call 'hotspots'. For us to operate here, and say not there, it's based on the capacity, the production capacity of here over there within all the cocoa producing regions…So the underlying factor is that it depends on the productivity, on the production capacity of a particular district in a region. And this is usually or mostly determined by the LBCs, because that's where they get more of their cocoa from. And the reason why possibly or strategically they may want to focus

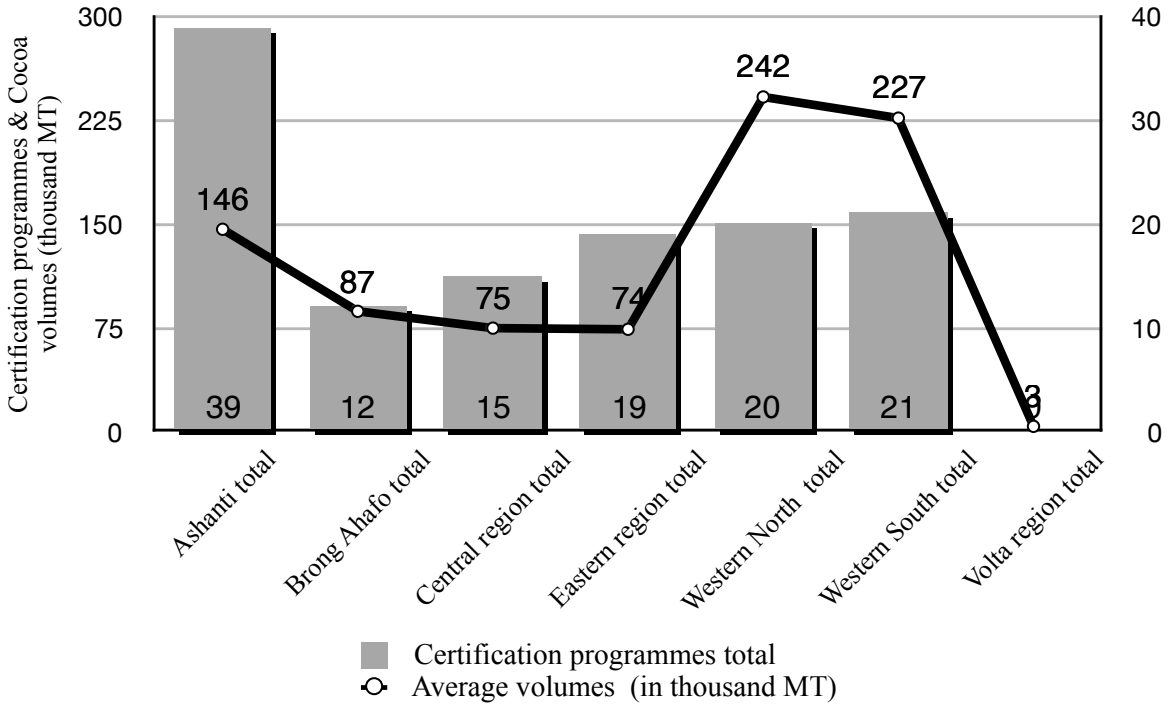
in this particular region or in this district also depends on the expected tonnage from the final off-taker. If you are challenged by a client or a final off-taker to produce, let's say 20.000 MT of cocoa, strategically you would't want to go where you cannot get that output. So all these factors determine where to focus your attention in terms of certification" (Alfred, NGO programme manager).

The extract underlines the importance of the cocoa production capacity of a specific area or district. Coming from the perspective of an implementing actor, it indicates that there are well known 'hotspot' areas of great cocoa production activity, which are preferred in terms of SSC programme placement. The extract also suggests that large contracts for certified cocoa are likely to result in SCC programmes being implemented in areas with greater production capacity, whereas smaller buyers with minor requirements may be able to source certified cocoa from areas with lesser cocoa production capacity. Further, it highlights that the the SSC placement process is often driven by the pressure that an LBC faces to deliver specific quantities of certified cocoa to its clients. This is because LBCs see SSC programmes as financial investments, as Rondinelli (1983) suggests (see section 3.2.1). Through this conceptual lens, programmes are placed in ways which minimise losses and maximise returns. Under this logic, they aim at producing the exact tonnages of certified beans for which they have a secured market (i.e. a client), no more and no less. Implementing a SSC programme in locations where they cannot source the requested volumes, would mean facing supply shortages and therefore the need to expand the investment to source certified cocoa from other areas or risk failing to supply their clients. On the other hand, creating an over-supply of certified beans can also be problematic, as a portion of the cocoa produced as certified would have to be sold as conventional, (i.e.without the certification premium), unless the LBC is able to find another buyer interested in certified cocoa. As a result, the LBC risks either running into losses by buying cocoa as certified and selling it as conventional, or damaging its commercial relationship with its supplying farmers by failing to pay the expected premium.

High cocoa production volumes are linked to soil fertility or the age of the cocoa farms. Therefore, recently established farms on forest land, as it is the case in the Northern part

of the Western region are more productive than older farms in the Eastern region that have been producing for decades without being renovated (Ruf, 2011). Similarly the Volta region, apart from very low production levels, would need heavy investments in removing old trees and replanting new ones and therefore,"no one wants to invest in certified cocoa there" (Edward, certification consultant). While data provided by COCOBOD confirm the fact that the Western region (both North and South) produces far more cocoa than the other regions (see Table 2), data on the presence of certification programmes does not corroborate that this is where SSC programmes are concentrated. As Figure 10 illustrates, the Ashanti region presents a higher concentration of certification programmes (n=39) from either the North (n=20) or South (n=21) of the Western region, whereas it produces 80 to 100 thousand MT less. On the other hand, the Eastern region presents a similar amount of certification programmes (n=19) as both parts of the Western region, while producing less than a third of what both parts of the Western region produce.

Figure 10: Cocoa purchases (2010-2015) and SSC programmes per region.



Source: Author's creation based on data provided by Cocobod, aid and certification actors

The concentration of volumes was also reported to play an important role in programme placement by cocoa industry informants, as the following quote indicates:

“If in this community there is no one [doing certification], it means that probably the number of farmers that you have here is small. Small production on small small farms. When the [harvesting] season comes you will get 500 MT. But [in another community] you have the potential to purchase 4000. So if all the big farmers sell 4000 here, why invest here to only get 500? So we will consider the volumes we get at the end of the season, the relationships, the whole market place.” (Richard, cocoa trading sustainability manager).

The above extract suggests that when SSC programmes are conceptualised as financial investments for policy implementation (Rondinelli, 1983), then providers are likely to target areas with larger farms that can supply higher cocoa volumes, since this would allow maximising returns while minimising costs. This logic contradicts the discourse of standard setting bodies like Fairtrade which claim supporting small-holder farmers. It also marks a distinction in the approach between SSC programmes driven by implementing actors, particularly LBCs, as business efficiency is prioritised over fulfilling development aims. Further, as noted above, it suggests that the cocoa volumes that a company can obtain from a specific area are also tied to the commercial relationships of the company and the broader market competition environment in that area, a point which links to the sourcing capacity of the LBC discussed in the next section.

5.3.2.Sourcing capacity

The sourcing capacity of the commercial partner of the SSC programme, i.e. of the LBC, is the second most mentioned placement determinant from the content analysis (see Table 5, column 6). The fact that it was widely mentioned by implementing but also funding and certifying actors (see Table 6) confirms that cocoa volumes alone are not enough to determined placement decisions, as hinted in section 5.3.1. The theme captures informants’ comments on the already existing sourcing capacity of LBCs in a certain area, i.e. their ability to physically obtain the certified beans. However, it also captures how certification related incentives, such as premium and farming inputs, are used by LBCs to attract more farmers to their supplying base, or more cocoa from the

already supplying farmers and hence improve (or restore) their sourcing capacity. This practice confirms that different actors, in this case LBCs, engage with interventions in ways that advance their own interests, in this case placing SSC programmes in ways which protect and improve their market share, as suggested by ANT (see section 3.2.2).

The already existing capacity of the LBC to source cocoa from a certain area was often framed in terms of farmers' 'loyalty' or 'commitment', with LBCs "running certification services" where "they have their own farmers", (William, cocoa manufacturing sustainability manager). These terms were widely used also by implementing and certifying actors to refer to farmers who do not side-sell their beans to other buyers but are reliable and consistent suppliers of the LBC running the SSC programme. The following quote suggests that the level of farmers' commercial commitment is often as important as the availability and the concentration of cocoa volumes when taking placement decisions:

"Beyond the volumes, the buyers will also look at loyalty. They may have more than two or three communities they are working, but the decision to introduce certification in a community may be based on the loyalty of the community. The focus is that [the farmers] have been providing us a lot, they have been consistent over years, so that's a good group for us to introduce the standards." (Henry, NGO programme manager).

The extract reveals the perception of implementing actors that a 'good' group of farmers to run a SSC programme is one that not only provides significant cocoa volumes, but is also 'loyal' i.e. consistent in its supply. The value placed in commercial loyalty is clearly linked to the concept of SSC programmes as financial investments, as implementing actors seek to involve groups of farmers that have demonstrated commercial reliability in order to minimise losses and maximise returns. Otherwise, they risk training in sustainability standards farmers who are likely to side-sell the certified beans or fail to comply with the standards in other ways, resulting in financial losses.

In that respect, PCs have a key role to play, as they are the ones who (externally) select programme participants from the pool of their supplying farmers. They do so by

assessing “who is a serious member of the group” (Henry, NGO programme manager), implying the farmers who are reliable and constant suppliers and who will not side-sell their cocoa to other PCs/LBCs once certified. This strategy simplifies the work of the PCs during the initial phase of a SSC programme, as PCs just have to select their “loyal farmers and send them up for training” (Daniel, NGO programme manager). While farmers’ production capacity was mentioned as an important external selection determinant by SSC implementing actors, in practice PCs were reported to prioritise commercial loyalty and the overall personal relationship established with the farmer:

“There may be a farmer that produces only two bags. Very loyal, but unproductive. But just because he is loyal, the PC will just keep him in [the SSC programme].Many things are based on relationships.” (Richard, cocoa trading sustainability manager)

The analysis of the GCFS dataset tried to captured the loyalty dimension by including a variable on the number of LBCs used by one farmer within the same season. Descriptive statistics at the full sample suggest that farmers in general tend to sell their cocoa to more than one LBC (Table 8, row 3), indicating that a minimum degree of diversification of the selling channel is widespread across farmers and regions regardless of certification status. When examining whether this influences SSC placement, farmers with access to Kuapa Kokoo were found to diversify slightly more their selling channel, the difference being statistically significant (Table 9, row 3). These results are not confirmed by the probit model at the full sample. Nevertheless, the variable is significant for the Ashanti region alone (Table 10, row 1), suggesting that at least in this region, Kuapa Kokoo is more likely to be present in villages where farmers sell to more buyers within one season.

Such results appear to contradict the “loyalty” principle, but converge with the scenario that SSC programmes are used by LBCs as tools for outplaying the competition and improving their market share. The following quote is characteristic of this thinking:

“But you have a lot of certification programmes and [the placement] decision is mainly because of [LBC A],[31] because we are partners with [LBC A]. And [LBC A] will say in

[31] The name of the LBCs has been anonymised to protect the identity of the informant

this area I used to have a market share of, let's say, 5000 MT. [LBC B] came in, [LBC C] came in, and because of that all my farmers have moved away from me and I am now losing 5000 MT. So in order to get back my market share, I say ok, I can introduce a certification programme there so that my farmers will come back and sell the beans to me. So the farmers there, knowing that now we care about them, we support them, now they will come back to [LBC A]. There is a lot of competition." (Richard, cocoa trading sustainability manager).

The extract asserts that placement decisions taken by LBCs are (also) driven by the competition they face at the local level. This is directly linked to the way the internal Ghanaian cocoa market is structured. As discussed in section 2.3, COCOBOD capitalises LBCs at the beginning of the season to buy cocoa from farmers on its behalf at state-fixed prices. This means that LBCs, and by consequence PCs, practically have no margin to compete on a price basis. In this setting, certification related incentives, such as training, premium payments or other inputs in kind (i.e. cutlasses, boots, discounted fertilisers, etc.), represent a unique opportunity to attract more farmers. Some PCs have a well established supplying base of farmers based on personal relations and credit supply which is unlikely to be affected by such incentives.[32] Others, however, may be able to use a 'certification boost' to maintain, recover or increase their local market share. This is because, as the above extract suggests, by providing certification related inputs to farmers, LBCs are able to show to farmers "care" and "support", elements that differentiate them in the local market and allow them to recover supplying farmers they have lost to competitors or further expand their existing supplying base. In other words, SSC programmes are used to enhance farmers' 'loyalty' and LBCs place them strategically where they need to recover, maintain or increase their market share.

The use of certification as a competition tool, however, can result in SSC programmes targeting the same farmers, while other areas may have no certification coverage at all. This is because the introduction of a SSC programme may trigger the implementation of more programmes in the same area by other LBCs fearing market losses. Quantitative findings from the probit model, which used the number of LBCs operating per village as

[32] Farmer-PC relations are further discussed in chapter 7.

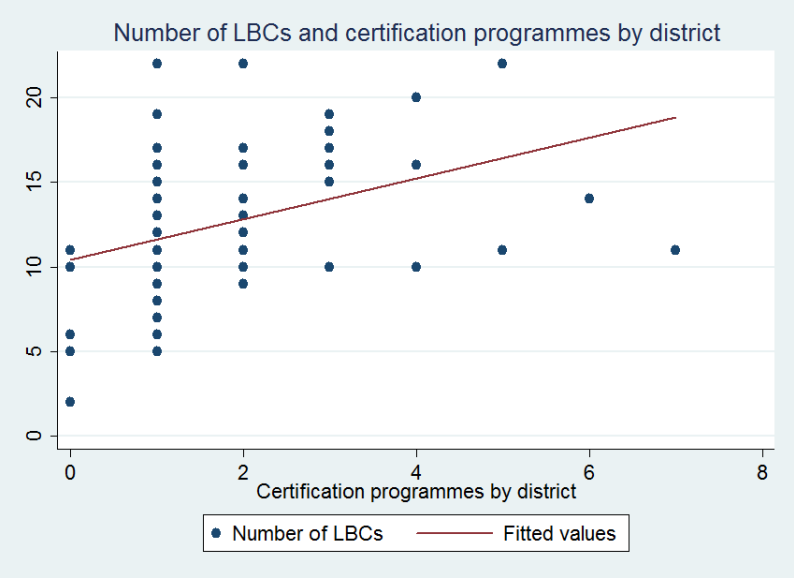
a proxy of market competition, shows that Kuapa Kokoo is more likely to be present in villages with a higher concentration of LBCs. Results are consistent both at the full sample and regional levels (Table 10, row 2). COCOBOD data also show an uphill, though moderate, statistically significant correlation (r=0.47) between the number of certification programmes operating in a cocoa district and the number of LBCs (see Table 12 & Figure 11).

Table 12: Correlation coefficients: LBCs & SSC programmes

	N of LBCs operating by cocoa district	N of SSC programmes by cocoa district
N of LBCs operating by cocoa district	1.0000	-
N of cSSC programmes by cocoa district	0.4737	1.0000
P value	(0.0000)***	
Observations	68	

*** p<0.01, ** p<0.05, * p<0.1

Figure 11: Number of LBCs and number of SSC programmes per district



Source: Author's creation based on secondary data

The positive correlation between the presence of LBCs and that of SSC programmes can of course be driven by high cocoa volumes, as discussed in section 5.3.1., but also by other factors, such as accessibility, area-specific costs of cocoa sourcing, vicinity to

other areas of interest, etc. These issues are discussed below, under the theme of business operationality.

5.3.3. Business operationality

Business operationality is the most frequently reported placement determinant from the content analysis and captures informants' comments on how (mainly) implementing actors consider their pre-existing partnerships and networks, as well as the operational costs when taking placement decisions (see Table 7, row 3). As commented in section 5.2.2 unfortunately the probit model was not able to include variables that could capture this dimension of programme placement, and therefore this section relies only on the content analysis. Qualitative data suggests that SSC programme placement is influenced by pre-existing partnerships and networks of the implementing actors (LBCs and NGOs) which can facilitate setting up a programme. The following extract makes this point:

"The LBCs were already buying cocoa, they were working with farmers in various other groups, [at the] community or individual level, around a PC, somebody who buys. It's like the point for the companies to enter into the community. And so based on this structure, when certification was introduced we followed the system that was put on the ground by the LBCs. The LBCs are interested in the beans, so we followed the beans." (Henry, NGO programme manager).

The extract highlights that LBCs were operating in different cocoa growing areas long before demand for certified cocoa picked up at the beginning of the 2010s (see section 1.1). Their operational areas were structured already, with LBCs having a stronger presence in some areas than others. Therefore, it made operational (and economic) sense, to use these already established structures and introduce SSC programmes in areas which were already familiar to the LBCs who were going to purchase the certified beans. In this process the PCs, as local trading actors proved to be crucial in the selection of areas to introduce SSC programmes, since they provided the key point of interaction between the LBC and the community. The extract also suggests that what drove LBCs to enter certain areas in the first place, prior to certification, was the

possibility of sourcing considerable amounts of cocoa. SSC programmes were then introduced, by LBCs or NGOs, in areas pre-selected by the LBCs based on that commercial criteria. According to the same informant, NGOs implementing SSC programmes also sought synergies with previous development projects to make placement decisions. The difference is that in these cases placement is linked to the institutional mission of the NGO (or that of its donors), e.g. protection of forest reserves, and not in commercial criteria. For instance, it made operational sense to enter areas where due to previous NGO work, farmers were already organised into groups, easily accessible and better prepared to engage with certification related activities.

The second point relates to the operational costs of programme implementation, which is the third most reported sub-theme from the content analysis (see Table 5, row 9). Running a SSC programme is expensive per se, as implementing actors, whether NGOs or LBCs, "need to put in place all the structures and systems and human resources, to produce cocoa according to the certification standards" (Alfred, NGO programme manager). As a result, they seek to avoid extra costs and look for low-cost areas in terms of cocoa sourcing and programme implementation, such as easily accessible communities, ideally concentrated in the same areas and in close distance to their operational base. Concentration of implementing areas is important, since it facilitates the provision of extension services as well as programme monitoring by the same team of extension professionals without having to cover long distances between communities, both LBC and NGO professionals have highlighted. It also facilitates low-cost expansion scenarios and allows responding swiftly to possible increases in demand, as it is faster and cheaper to include more farmers in the same area than to set up a new programme in a new area (Ibrahim, LBC sustainability manager). This further explains why areas with small, scattered farms, like the Volta region, are being avoided in terms of SSC programme placement. Moreover, accessibility from the operational centre of the implementing actor was also reported as another key factor. The following quote explaining how an LBC took SSC placement decisions illustrates this logic:

"The Ashanti and Brong Ahafo is close [to the LBC headquarters], so it meant that the monitoring of the programmes would be easier […] than going to the Western region. In

the Western region, the terrain is hard, the road networks and so on. It was better to do [certification] where we thought the factors that could militate against the success would be less" (Collins, LBC sustainability manager).

The quote suggests that accessibility may prove more important than volumes. In this case, despite the important bulk of cocoa volumes in the Western region, the LBC decided to implement its SSC programme in areas closer to its operational base in Kumasi, in the Ashanti and Brong Ahafo regions. Accessibility was also valued in terms of 'public relations' or marketing, i.e. "to quickly show the people around where you are working", as one certification actor commented (Joel, standard setting body programme manager). A difference in placement approaches of different actors therefore is observed. LBCs make gains from the commission on the cocoa tonnages they purchase, and therefore their approach to SSC programmes in general, and to placement in particular, is narrowly determined by their commercial interests. Aid and certification actors, on the other hand, are driven by their mission which broadly involves improving the working and living conditions of farmers. Therefore they have interest in capitalising on the impact of SSC programmes by selling evidence to donors, programme funders, or market actors and finally consumers. This explains the importance of having "show case" projects that can be easily accessed by visitors for marketing or fundraising purposes. Such differences between commercial and non commercial actors are further illustrated in the discussion that follows on the mission and CSR objectives of an organisation as placement determinant.

5.3.4.Mission/ Corporate Social Responsibility objectives

Business-oriented placement determinants dominate the findings of the content analysis, however, farmer-centred criteria related to the particular mission or CSR objectives of the funding and certifying actors were also reported (see Table 6, row 4). The following quote makes this point:

"Certification goes where the problem is, for example child labour is in the Western region. There may be a buyer that wants to buy from there to contribute in child labour improvements and then sell it as CSR. Or climate change in the Eastern region, soil

fertility issues, mining, etc. So it depends in which area a buyer wants to contribute to." (Victor, programme manager at a multi-stakeholder industry institution).

The informant suggests that for the funding actors who purchase the certified beans,SSC programmes are seen as CSR investments that can be "sold". Cocoa and chocolate companies aim to capitalise on these investments by using them to differentiate themselves towards consumers and improve or protect their reputation against concerns regarding the social or environmental impact of their activities. Their approach to placement therefore diverges from that of implementing actors, which are more narrowly concerned with minimising their sourcing risks and implementation costs when it comes to SSC placement. Instead, funding actors are interested in placing SSC programmes in locations that advance their CSR agenda, regardless of the implementation costs.

These may be remote, hard to reach areas, "where many people ordinarily would not even go", as one certification professional commented (Joel, standard setting body programme manager).According to Joel, SSC may be used to make a broader programme economically sustainable on its own. This applies to programmes driven by actors with broader aims, (e.g. environmental protection) which use SSC as a means to make markets fund their activities through premium payments. For instance, if a programme has secured funding for three years, a SSC component may be introduced in an attempt to keep programme activities running once the initial funding is over. In these cases, SSC placement is clearly determined by the goals of the broader programme. For instance, a programme concerned with natural resource management, will be located around a hub of natural resources, which can be forest reserves or water bodies, and target the neighbouring communities.

The above observations imply that funding or certifying actors make placement decisions in ways which advances their own mission or CSR goals regardless of the related implementation costs. As a result when such actors are involved in placement decisions, SSC programmes are more likely to target less accessible or less productive areas than programmes placed following business-oriented criteria as is the case of LBC-driven certification. Either way, a clear link emerges between the actors' interests

and they way they engage with SSC programmes, in this case influencing programme placement decisions.

The quantitative analysis was able to include only two variables that could be linked to the mission/ CSR objectives of funders and implementing organisations (i.e child labour and sex of household head) and therefore its contribution to this theme is limited. Results from the t-test analysis suggest that the Fairtrade cooperative Kuapa Kokoo entered areas with slightly, but statistically significantly, lower child labour (Table 9, row 14), although this is not supported by the probit model (see Appenix 15, row 12). On the other hand, interviews with Kuapa Kokoo professionals affirm that the cooperative/LBC selected areas "where strategically you would get business […] where we have cocoa and where we have farmers" (Jacob, LBC programme manager). Combined findings suggest that Kuapa Kokoo, as a SSC implementing LBC, expanded using business-oriented placement determinants. It is therefore likely that it entered more accessible and possibly better integrated areas, where a combination of a higher presence of COCOBOD extension services and schooling facilities could have contributed to lower use of child labour. The scenario that lower child labour is the result of spill-overs of the Kuapa Kokoo Fairtrade related activities is rather unlikely, given the limited impact that Kuapa Kokoo has had so far on cocoa farmers (e.g. Nelson et al., 2013; Laven, 2010; Deppeler, 2014). Further, results from the probit model suggest that the presence of female headed household significantly increases the likelihood of Kuapa Kokoo operating in a village in the Ashanti region, while the same likelihood significantly decreases in Brong Ahafo. Qualitative findings cannot explain this contradiction, which should be further investigated. A possible explanation would be that female-headed households in the Ashanti region, for some reason that could be related to the presence of previous development programmes or simply particular area-specific socio-economic characteristics, were better organised and had a greater capacity to attract and set up Kuapa Kokoo societies in their villages. This assumption is linked to the farmers' ability to attract certification, the last of the five theme identified by the content analysis, which is discussed in the next section.

5.3.5.Farmers' ability to attract certification

The last placement determinant identified by the content analysis refers to farmers' ability to attract SSC programmes, framed as farmers' interest in certified markets, but also their willingness and ability to comply with the standards. Farmers' predisposition to adopt the standards is reported by both implementing and certifying actors as a necessary pre-condition for implementing a SCC programme in a specific area (Table 6, row 5). This is linked to SSC implementing and certifying actors seeking farmers who see cocoa farming as 'business' and not as 'a tradition' or 'a way of life'. The following comment is characteristic of this view:

"Certification schemes are not there for the distressed farmer, the one who is at the bottom of the his activities and does not have any idea how to come out of that environment. This is not the target of certification bodies. When you look across UTZ, Rainforest Alliance, Fairtrade, these are not the farmers they are looking for. Certification is there for farmers who understand the business of farming, but they are struggling to do that business." (Edward, certification consultant)

The extract clearly indicates that SSC programmes are meant, at least in theory, to target farmers who have a professional attitude towards farming. This possibly means excluding those who are not able to see cocoa farming as a commercial activity that should be intensified through investments, but rather as a part of a 'subsistence' agriculture, despite being involved in cash crop production.[33] These tend to be farmers who are more deprived of resources and different types of capital. Overall, the statement hints to a process of positive external selection into SSC programmes, where the farmers that are already better positioned to be integrated in the export market are preferred over those trapped in the loop of rural poverty.

Moreover, implementing actors highlighted the importance of farmers' ability to comply with standards when taking placement decisions. In the case of Kuapa Kokoo, for

[33] 'Subsistence agriculture is used here to denote farmers "who can be found on a continuum between subsistence production and concentration on crop production for the market" (Morton, 2007:19680).

instance, one staffer described how they selected in which communities to introduce UTZ certification based on the levels of farmer compliance with the Fairtrade standards that they have been implementing for a long time:

"You know, we have done Fairtrade audits for more than twenty years. So we know areas where there is a high risk and areas where there is a low risk of non-compliance. And if you compare the [UTZ] standards with those of Fairtrade, the difference is just something small.So, if in certain areas farmers are passing the Fairtrade audits easily, then it was more prudent to go for UTZ certification on these areas than going to the high risk." (Jacob, LBC programme manager).

The extract suggests that farmers' previous good performance with SSC increases the likelihood of a new SSC programme being placed in the same area. In this case, farmers' demonstrated ability to comply with certain standards was perceived by the LBC as a key 'risk minimising' factor that determined placement. This implies that an implementing actor might prefer to double-certify farmers that have been already performing well under certification, instead of setting up a SSC programme in a new area, involving farmers that would need to be introduced to the standards from zero. This also suggests that implementing actors operating with business logics are more likely to create concentration of SSC programmes in certain areas, while systematically excluding others, not only on the basis of "optimal" areas in terms of high cocoa volume and low operational costs, but also on farmers' human capital, i.e. their ability to comply with the standards.

The quantitative analysis considered variables that can be linked to this ability, such as years of residence in the village which reflect cocoa farming experience, schooling level, labour access, ability to save and invest in cocoa farming and income diversification (i.e. livestock and other sources of income). Results from both the t-test and the probit analysis confirm that farmers' ability to adopt and comply with the standards positively influences SSC placement. In the case of Kuapa Kokoo, findings suggest that the Fairtrade LBC is more likely to be operating in areas where farmers are longer residents and have more years of schooling and therefore in theory a greater ability to actively demand SSC programmes and engage with the standards (Table 9,

row 3 &4). In terms of access to labour, farmers with access to Kuapa Kokoo also have larger households, i.e. a larger pool of household labour force to draw from (Table 9, row 5). According to the probit model, farmers with access to Kuapa Kokoo also tend to make greater use of sharecropping labour (Table, 10, row 7). Overall, the probit analysis suggests that Kuapa Kokoo entered areas where farmers had better access to both family and sharecropping labour and therefore had greater ability to adopt the often more labour-intensive Fairtrade standards. Finally, Kuapa Kokoo is more likely to have entered areas where farmers have less livestock, suggesting less income diversification and greater cocoa farming intensification (Table 10, row 8). Assuming that SSC programmes represent a labour-led, agricultural intensification livelihood strategy (see section 3.3.3), findings suggest that Kuapa Kokoo entered areas where farmers were already better positioned to pursue certification as a cocoa farming strategy. Nevertheless, by implicitly targeting areas where farmers have greater ability to comply with the standards it is likely that farmers less able to do so were automatically excluded from the Fairtrade market, undermining therefore claims of support to the weakest or poorest producers (Cramer et al., 2017).

5.4.Conclusion

The purpose of this chapter was to unpack the placement processes of SSC programmes in order to understand which geographical areas, and by consequence which farmers, are more likely to be targeted by SCC actors and why. The chapter started by presenting key qualitative findings from the content analysis of interviews with cocoa, aid and certification industry professionals. Five themes were identified as possible placement determinants: (1) availability of cocoa volumes; (2) sourcing capacity; (3) business operationality; (4) mission/CSR objectives of the programme funding and implementing actors and (5) farmers' ability to attract SSC programmes. The analysis suggests that implementing actors appear to prioritise more business-oriented criteria in their placement decisions (i.e. themes 1 to 3), while funding and certifying actors tend to operate more guided by farmer-centred criteria (i.e. themes 4 & 5). Findings from the qualitative analysis, as well as proxies for livelihoods capitals were used to structure the quantitative analysis presented in the following section. The discussion focused on the

variables that were found to be statistically significant either across or within regions: the number of buyers used by one farmer; the number of LBCs operating in the farmer's village; the farmer's years of residence and years of schooling; the household size and the household head sex; use of household and sharecropping labour; and ownership of livestock. It was noted that the marginal effects of most of these variables were considerably low, with the exception of number of LBCs and the use of sharecropping labour across regions, and that of household head sex for the Ashanti and Brong Ahafo regions. The chapter then moved to the integration of qualitative and quantitative findings and examined where results converged or diverged. It was discussed that the sourcing capacity of the LBC in combination with the operational costs may be more important in shaping placement decisions than the cocoa production capacity of a certain area alone, at least when implementing actors are concerned. Funding and certifying actors, on the other hand, appear to consider placement criteria which are closer linked to their institutional mission or CSR goals. In both cases, it became clear that placement decisions are shaped by the interests of the actors involved in the programme.

Overall, integrated findings suggested that business-oriented placement logics followed by implementing actors, mainly LBCs, tend to prioritise areas with larger farms that can supply higher concentration of volumes, as well as areas where farmers are better positioned to adopt and comply with the standards. This contradicts the discourse of certifying actors like Fairtrade which claim supporting the poorest producers (e.g. Cramer et al., 2017). Most importantly, however, such placement logics can result to the excessive concentration of SCC programmes in few certification 'hotspots''. This tendency risks the emergence of over and under-certified areas, systematically including farmers from optimal areas while excluding the rest. Funding and certifying actors, on the other hand, tend to see SSC programmes as a way of advancing their institutional mission or CSR agenda. Placement decisions taken for these reasons result in SSC programmes being placed in areas of particular social or environmental concern, which may include less accessible or less productive farming communities, otherwise avoided by implementing actors. With this pattern of positive selection emerging, the next

chapter turns to the eligibility criteria of SSC programmes and examines which farmers are in practice able to join such initiatives.

6. Unpacking eligibility

6.1. Introduction

The previous chapter has examined placement processes in SSC programmes, focusing on how the interest of different actors determine which areas are targeted. This chapter is concerned with eligibility, i.e. which farmers are able to join SSC programmes, regardless of whether they actually join or not. Cocoa SSC tend to lack explicit guidelines on which farmers can (or cannot) join a certified group, leaving farm operators, such as tenant and sharecropper farmers, in a grey zone of eligibility ambiguity (see section 1.3). The aim of this chapter is to examine how explicit or implicit eligibility criteria apply in the case of cocoa SSC programmes in Ghana and to explore the resulting implications for the reach and impact of such programmes. By doing so, it addresses the second sub-question of the thesis (RQ2):

How do farmers become eligible for participation in cocoa certification programmes?

The chapter is structured as follows: Section 6.2 is a preliminary section which briefly presents the life histories of three selected farmers who make repeated appearances in the analysis provided in the following sections. Section 6.3 explores eligibility in practice, drawing on interviews with industry professionals as well as membership lists of certified groups. It then examines farmers' perception on eligibility criteria at the community level. Combined findings from industry and farmer level data suggest that land ownership and entitlements, although officially not a precondition for membership, are often essential for joining a certified group. Based on this main finding, the section 6.4 examines farmers' trajectories to land ownership and entitlements in order to understand how and when farmers become eligible to join cocoa SSC programmes. Drawing on the SRL framework (see section 3.3.3), it particularly focuses on the role of human, social and economic capital in acquiring natural capital (i.e. land ownership and/or entitlements) and hence eligibility to participate in SSC programmes. Section 6.5 discusses the main implications of the findings, while the section 6.6 concludes.

6.2.Life histories of selected farmers

This is a preliminary section to the analytical sections that follow. Its aim is to briefly provide some key background information on three selected cases who appear recurrently in the analysis presented in this chapter (but also partly in chapter 7), and therefore deserve a more comprehensive introduction than those making shorter appearances. The three cases illustrate the life histories of three farmers with different ownership relations to the land they farm: a sharecropper (Abdulai), a sharecropper who was involved in an abunu contract and therefore was also a tenant (Moses) and a land owner (Solomon). A table providing an overview of the key characteristics of all the interviewee farmers can be found in Appendix 5.

6.2.1.Abdulai (sharecropper)

Abdulai is a 29 years old sharecropper from the Upper East region of Ghana. He lost his parents at a very young age and grew up with his grandmother who could not afford to send him to school. Instead, he spent his childhood farming food crops on his grandmother's land until the age of 15. By that time, one of his uncle who was a cocoa sharecropper in Côte d'Ivoire suggested to take him to work with him. Abdulai agreed, however, once there he was given as a houseboy/ farm labourer to a woman who was a tenant farmer in a big compound with other farmers. During the four years he spent there, he never received any renumeration, besides a place to stay and eat. Nevertheless, there was a yearly contract for him, the amount being paid directly to his uncle, who would come once a year to collect the money. Although he was free to go, Abdulai saw the experience as an opportunity to learn how to farm cocoa and stayed until he realised he could survive on his own. At the age of 19 he decided to return to his hometown. For the trip he used some savings he had from working as a 'by day' labourer, as well as 50-60 Ghanaian Cedis (GHS) the lady he worked for gave him before leaving.[34] After a couple of months in his hometown, Abdulai returned to Côte d'Ivoire, but this time he went alone to try his luck in a city. He settled down in a place where he found other immigrants from his hometown and started as an ambulant seller of ice cream, Tampico

[34] the equivalent of 8 to 9.5 GBP today.

juice and yoghurt. When the political situation in Cote d'Ivoire got tense around 2010 he felt unsafe and decided to return. He then joined some friends who were growing onions outside Accra. At some point he visited his brother who was farming in the research community and there he met Moses. Coming from the same hometown, the two men quickly became friends. Moses was already working as a sharecropper and he told Abdulai that he could get him a sharecropping farm. Abdulai stayed with Moses, however, instead of getting a sharecropping farm for himself, he ended up helping Moses with his own abusa farm and working as a labourer. Abdulai went back and forth between Accra and the community thrice, keeping on with the onion farming, while also searching for sharecropping opportunities. In one of his trips to the community, Abdulai met his wife and got married. Together they joined some relatives who were sharecropping maize. Two years after his marriage, Moses called him with news about an abusa opportunity in the area and Abdulai went for it. He eventually got the sharecropping job and established there with his wife at the age of 27. Abdulai had a son by the time of the interview and his wife was pregnant with their second child. He was planning to get a second wife, because his wife was travelling too often to their hometown, leaving him alone with all the farm work. He also wanted to save money to build a house in his hometown and return to farm on his father's land. In terms of certification participation, Abdulai was not member of any SSC programme. The owner of his sharecropping farm, however, was a member of the Cocoa Life group, which means that the farm was Fairtrade certified. Abdulai attended the training of the Cocoa Life group which was open to the whole community, but did not receive any share of the premium paid to the farm owner.

6.2.2.Moses (sharecropper and tenant farmer)

Moses, 37 years old, is a sharecropper in the process of becoming land owner through an abunu contract. Originally from the Upper East region of Ghana, he has been farming cocoa in the research community for more than a decade. As most northern sharecroppers, Moses skipped school and spent his childhood farming with his parents. When he was around 17 years old, he joined his brother in law who was sharecropping cocoa near the research community and work with him for three years, learning how to

farm cocoa and working as a labourer on a daily basis for other cocoa farmers. Moses never got paid for his work, but the day he left he received from his brother in law building material, clothing and shoes, as well as a small amount of money. After a short stay in his hometown, Moses returned because his brother in law had managed to secure him a sharecropping farm. Nevertheless, after the first harvest, the farm owner requested the land back to give it to his son. When he lost the farm, Moses went back to his hometown to farm food crops with his father. However, this was not lucrative, so he decided to try once more his luck in the cocoa lands. This time he joined some relatives who were sharecropping in the Western region. While there he helped his relatives and worked on other people's farms on a 'by day' or contract basis (i.e. taking the whole farm on a contract to weed and clear). After a year he went back to his hometown, although the income generating opportunities there were scarce.

Around this time, his brother in law found him another sharecropping farm and Moses was keen to take it. He was 25 years old by then and soon after obtaining the sharecropping farm, Moses went back to his hometown to get married. He spent there several months looking for a wife until he found Loretta. After the marriage rites, he returned with his wife to his sharecropping farm. Four years later, he decided to marry a second wife, Aisha, to deal with the increase farm and house workload. Shortly after his second marriage, Moses was able to acquire a second sharecropping farm. Nevertheless, transition to polygamy was not without problems. Loretta, not accepting the junior wife, took her children and returned to their hometown, while Moses kept on sharecropping with his junior wife. After a couple of years Moses was able to enter an abunu contract and this is what convinced Loretta to return to work with her husband on the abunu land. This is because contributing with her labour to the establishment of the farm would ensure her children's inheritance rights on the land. At the time of data collection, Moses was negotiating the acquisition of a third sharecropping farm. This time it was a farm with an Akura in a considerable distance from the research community and his other farms. Moses was planning to send Aisha, his junior wife to work there. Despite being still in his thirties, Moses was already planning to return to his hometown once the abunu contract was completed and shared. In terms of certification participation, Moses used his abunu farm to register with the Touton-PBC programme (where he

appeared as a tenant farmer) and he sporadically attended the training of the Cocoa Life group, without, however, being a member.

6.2.3. Solomon (farm owner)

Solomon is a 60-year-old Ashanti farm owner. His father was a goldsmith who invested in cocoa farming on a large scale. Solomon's father owned five large farms scattered across the Ashanti and Brong Ahafo regions. According to Solomon, the farms were large enough for each one to need about six sharecroppers. His father had seven wives located in different farms who would supervise the sharecroppers for him when he was not around. Solomon grew up with his mother, his father's third wife, who was running a textile shop in a small town in the Ashanti region, set up with her husband's capital. Solomon visited one of his father's farms in the area as a child mainly during school holidays and weekends. When Solomon finished Junior High School (JHS) at the age of 17, he was encouraged by his teachers to continue studying. Nevertheless, his father refused to further finance his studies and instead offered him 10 hectares of virgin forest land to grow cocoa, next to where he was farming himself at that time. Solomon refused initially because he wanted to continue studying. To encourage him, his father promised him that the farm was going to be his personal property, not to be shared with any of his siblings. Lacking previous cocoa faming experience, Solomon was supported by his father who trained him and provided labourers to help him clear the land and plant cocoa. Once alone in the Akura, Solomon needed a partner to help him, so he got married. This marriage did not result in any child bearing so the marriage was soon dissolved and Solomon this time brought two wives simultaneously at the Akura to live and work with him. Once his farm was established and the cocoa production "stabilised", Solomon divided his land into three farms, he kept one for himself and gave the other two to sharecroppers. Throughout the years he has been investing in his hometown by building different houses and shops. At the time of the interview he was already taking vey specific steps in order to relocate to his hometown and leave the farm entirely to sharecroppers. In terms of certification participation, Solomon was a member of the board of the Cocoa Life group.

The stories of the three farmers (and those of their wives) provided in this preliminary section illustrate the challenges farmers with different human, social and economic capitals encounter in the process of becoming cocoa farmers, as well as the different strategies they develop. For Abdulai and Moses, for instance, it was necessary to first acquire cocoa farming experience and invest in the right social connections in order to be able to farm cocoa. Solomon, on the other hand, clearly relied on his family resources in order to gain the farming experience he needed to farm cocoa. Although each of the three cases is in many aspects unique (e.g. Abdulai's cocoa farming experience in Cote d'Ivoire, Moses' exceptional ability to manage an increasing number of farming hectares using his wives' labour force, or Solomon's trajectory as the son of a particularly wealthy farmer), there are also a number of similarities with the trajectories of other farmers. For example, being sent from a young age to relatives (or even to strangers) to help with daily household and farming chores without direct remuneration, just like Abdulai and Moses, was a widespread practice across interviewed farmers. Another common pattern among farm owners like Solomon, or farm tenants like Moses, was their intention to return to their hometown, leaving their farms in the care of sharecroppers. These patterns and their implications in relation to SSC programmes are further discussed in the sections that follow.

6.3.Eligibility: perceptions and practice

This section discusses how eligibility is perceived by both industry professionals and farmers and then reviews the membership lists of the two SSC programmes operating in the research community to explore how eligibility applies in practice.

6.3.1.Perceptions of eligibility

Implementing and certifying actors often see a farmer's active involvement in cocoa farming as the only requirement for SSC eligibility. Therefore, whoever "works on the farm, makes himself available for training, and builds the capacity to comply with the standards" may join (Edward, certification consultant), regardless of whether this is a farm owner or operator (i.e. a sharecropper farming in abusa terms or a tenant farmer

who is renting the land without sharing the crop).[35] Nevertheless, it was also underlined that certification should not disturb the relations between farm owner and operator (Gideon, LBC manager). Instead, they should aim first at enrolling the farm owner to avoid "any dispute which would involve families and generations" (Edward, certification consultant). This is despite acknowledging that dealing directly with the farm operator can be more effective in terms of adoption of standards, since they are "the ones doing all the work on the farm" (Richard, cocoa trading sustainability manager). Another reason for prioritising the owner over the operator is that the latter tends to "fade off with the time" (Elizabeth, COCOBOD extentionist), as they may move from one farm to another in search for better revenues (see section 6.4.2), or lose the farm like in the case of the first abusa contract of Moses (see section 6.2.2.).

From the above, it can be concluded that implementing and certifying actors consider farm operators as eligible to participate in SSC programmes, however, they prefer targeting farm owners to avoid possible disputes and minimise dealing with the more volatile and less reliable sharecroppers. On the other hand, they have interest in enrolling the farm operator when the owner is not available (e.g. in the cases of 'absentee' farm owners) but only if permission from the owner is granted (Emily, standard setting body programme manager).[36] This attitude towards operators implicitly makes them eligible only (or mainly) in cases of 'absentee' farm owners, who cannot attend the training events and meetings themselves since they do not reside in the community (Elizabeth, COCOBOD extentionist).

Farmers' perception of their own eligibility to join SSC programmes points to the same direction. Although some farmers argued that sharecroppers are eligible to join SSC programmes since they are the owners of one-third of the crop, others noted that the certified groups are for "cocoa farmers and not for sharecroppers, unless the sharecropper is allowed to stand in for the farmer" (Kofi, farm owner). Permission to do so involves holding the farm passbook in order to officially register with the SSC

[35] Farming under abunu contracts is often considered as a form of tenancy, see section 2.4. for more.

[36] The term 'absentee' farmer refers to farm owners who no longer reside in the community and their farms are farmed by sharecroppers, see section 2.4. for more.

programme.[37] This is more likely to occur in the cases of 'absentee' farmers who tend to regard their sharecroppers more like tenants than labourers (Robertson, 1987). Sharecroppers who are not officially members of the group but only represent the land owner, are unlikely to receive any SSC incentives. The following passage illustrates this point:

"The bonus is not for the caretakers, it's for the farm owners.[38] The caretakers are doing the donkey's work. The meetings are non-ending, you go there for long hours, sometimes they call early in the morning, you don't get the farm work done and after that, you don't get any bonus. Sometimes you even have to take the bonus from the PC and take it to [the owners]. Even transportation money they will not give you. It's the farm owners who are members of the cooperative and not the caretakers." (Moses, sharecropper and tenant farmer)

Moses's comment confirms that non-registered sharecroppers tend to be excluded from SSC related incentives, despite being expected to assume the obligations of a certified farm (i.e. attending meetings and training). Moreover, the fact that the financial incentives are restricted to farm owners (also in the case of 'absentee' farmers) has a demotivating effect which prevents sharecroppers from further engaging with the programmes, unless they are recognised as members of the groups with full rights. This is why clarifying eligibility issues for this section of the producing actors becomes crucial.

Another issue related to the perception of eligibility and the ability to benefit from certification is that of training in GAP, an element of SSC programmes which was highly valued by certified farmers in the community. In the case of the Cocoa Life programme, training is open also to non-members, however, farmers who perceive themselves as non-eligible are not always aware of these options. This appears to apply particularly to sharecroppers who are new on the job, and/or are based in isolated

[37] A farm passbook is a registry book where the quantities of cocoa sold to a PC are noted and is often used as a proof of who is operating the farm. In order to register with a SSC programme, a farmer needs to present the passbook of the farm he/she owns or operates.

[38] Moses uses the term 'caretaker' to refer to sharecroppers and 'cooperative' to refer to the Fair-trade certified Cocoa Life group.

Akuras,[39] scattered at considerable distance around the community, with no easy access to meetings and information. In other words it applies to farmers with limited social capital. Abdulai and Mustapha, for instance, are two sharecroppers based in large Akuras over an hour's walk from the community. Despite taking care of certified farms, neither of them was a member of the corresponding certified group. While Abdulai attended certification trainings sporadically, Mustapha did not attend at all and only relied on the landowner for instructions on how to farm certified cocoa. None of them received any part of the certification premium, as this was paid directly to the landowners who did not share it with their sharecroppers.

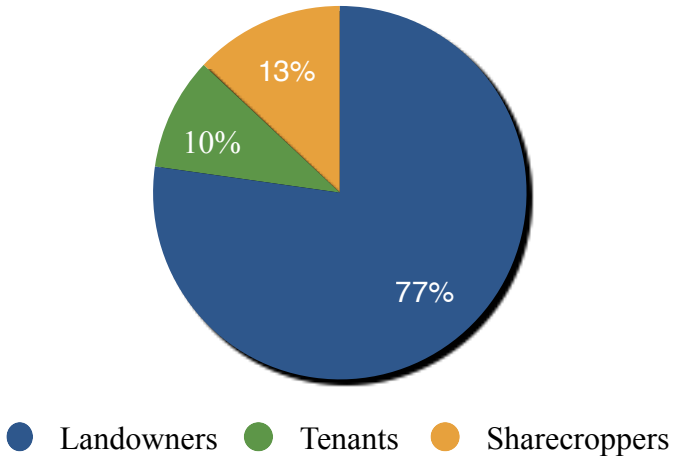
Moreover, wives working on their husbands' abusa farms or even those holding abusa contracts themselves were even less aware of their eligibility status and the possibilities to benefit from SSC programmes. Josephine, for example, farms with her husband two sharecropping farms, which are both Fairtrade certified. Neverthelesss, she has not received any certification related incentives. When she tried to join the Cocoa Life group, she was told by the board of the group that membership was only for landowners and that "the wives of sharecroppers could not be part of the group". Josephine later was told that she could join the group even as a sharecropper but by then the entrance fee to become a member was much higher and she could not afford to pay it. Despite the lack of clear rules regarding eligibility, Josephine was (initially) perceived as non-eligible by the rest of certified farmers and that prevented her from joining the SSC programme. Emelia, on the other hand, farms a sharecropping farm on her own and has also inherited an incomplete abunu farm from her late husband, which converts her into a sharecropper - 'tenant' farmer. While other tenant farmers with abunu farms were able to join both certified groups, as it will be discussed in the next section, Emelia perceived herself as non-eligible and therefore abstained from both certified groups operating in the community. Both cases indicate that in the absence of clear participation rules for farm operators, eligibility perceptions of one self or of others shape in practice who is able to join SSC programmes and who is not.

[39] The reader is reminded that Akuras are settlements in the middle of large, commonly isolated, cocoa farms.

6.3.2.Eligibility in practice

Membership lists of the two certified groups (Cocoa Life and Touton-PBC) operating in the case study community reveal that land ownership and entitlements are essential in practice, even if not formally required, for joining a SSC programme.[40] Although farm operators (i.e. sharecroppers and tenant farmers) appear in both membership lists, the following points need to be raised. First, farmers registered as farm operators are clearly the minority. Combined numbers from the two groups suggest that sharecroppers constitute 13% of the total certified farmers in the community, while tenant farmers (appearing only in the Touton-PBC membership list) amount to 10% (Figure 12).[41]

Figure 12. Certified farmers in the community per land ownership status



Source: Author's creation based on secondary data

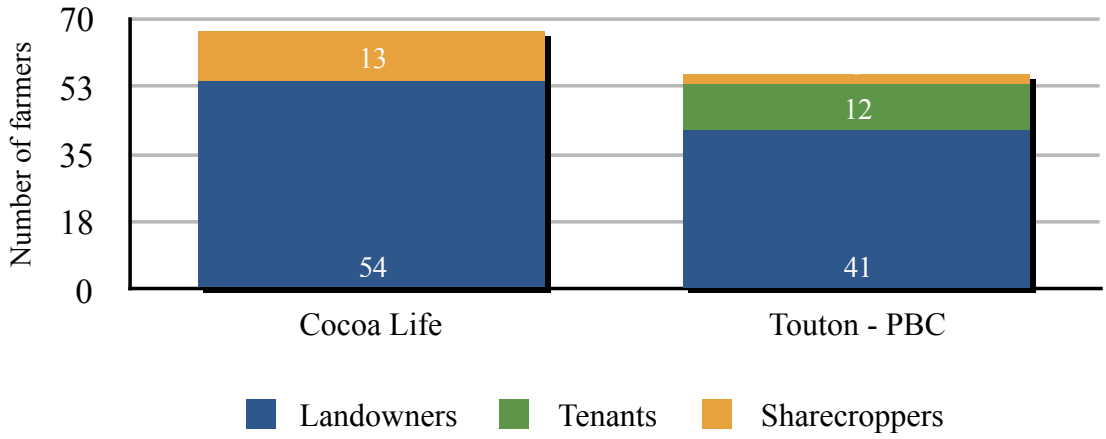
When examined by certified group of farmers, it is observed that the Touton-PBC group has only 3 members registered as sharecroppers and 12 registered as tenant farmers out of a total of 56 farmers, while the Fairtrade-Cocoa Life group, which does not apply the

[40] The reader is reminded that there are two SSC programmes operating in the case study community: the "open doors" Fairtrade certified Cocoa Life programme, in which participation is not conditional on the selling channel, and the "closed doors" UTZ certified Touton-PBC programme, in which participation is conditional to selling to PBC, the commercial partner of the programme (for contextual information on the case study community see section 4.4).

[41] As discussed in section 2.4. there is no no clear distinction between the terms of sharecropper and tenant farmer. According to Robertson (1987) it can be assumed that the first one has a shorter and less secure relation with the land, while the second one reflects a longer and better established relation to the farm and it could also indicate the presence of an abunu contract.

category of tenant farmer, has 13 out of a total of 67 members registered as sharecroppers (Figure 13).

Figure 13: Land ownership status of farmers by certified group



Source: Author's creation based on secondary data

Second, the registration of farm operators in the "closed doors" Touton-PBC programme does not necessarily reflect active membership. This is because membership applies automatically to all farmers selling to the PC in charge of the SSC programme, in this case the PC of PBC. As a result, tenant and sharecropping farmers, who lack the power to decide to whom the cocoa should be sold, as discussed in section 2.4, may find themselves registered with the programme even though they never intended to, just because the farm owner requests the cocoa to be sold to the certified PC.

The case of Lisa, illustrates how this can occur. Lisa is supervising a sharecropper on behalf of her aunt who is not living in the community. Although she appears in the Touton-PBC membership list as a tenant, she does not consider herself to be a member of the group. The fact that her aunt wants the cocoa sold to PBC has converted Lisa automatically into a member of the certified group, despite the fact that she never intended to join. In fact, although she appears as a group member, Lisa does not attend any training or meetings, while the UTZ premium is paid directly by the PC to her aunt. Neither Lisa, nor the sharecropper producing the certified beans receive any premium or other certification related benefit. This research has identified two more cases of "ghost" members like Lisa, who although officially certified, neither engaged in certification related training and meetings, nor received any certification related benefits (premium or inputs). It is hard to estimate from the collected data how extended this

phenomena is. However, judging from the abundance of farms managed by sharecroppers and supervised by thirds on behalf of 'absentee' farmers in the Ghanaian cocoa sector, it is likely that the case of Lisa is farm from exceptional.

Third, data collected from six certified farmers registered as tenants or sharecroppers reveal that five of them were actually land owners, or land owners to be, due to their involvement in abunu contracts. As discussed in section 2.4., under an abunu contract a tenant farm is employed to develop a farm in exchange of permanent farming rights on half of the developed farm once the work is finished. As a result, even while the farm is being developed, farmers with abunu contracts can be considered as (future) owners of one-half of the farm. Therefore, entering an abunu contract in practice equals acquiring land entitlements. From Table 13 it can be observed that only one of the six interviewed farmers registered as farm operators, Alhasan, is a sharecropper without an abunu contract, i.e. without the perspective of acquiring land entitlements in the future.

Table 13: Interviewed farmers registered as farm operators

Farmer	Touton-PBC	Cocoa Life	Labour status	Land ownership status
Moses	Tenant		Sharecropper	Abunu contract in process
Lisa	Tenant	Landowner	Overseer/ sharecropper for family land	Abunu contract in process
Obed	Sharecropper	Sharecropper	Sharecropper	Abunu contract completed / Land not yet shared
Kwame		Sharecropper	Sharecropper	Landowner (abunu contract - completed & land shared)
Anita		Sharecropper	Working on abunu farms	Abunu contract completed / Land not yet shared
Alhassan		Sharecropper	Sharecropper	No abunu contract
Source: Author's creation based on primary data primary and secondary data.				

All the rest are or were involved in abunu agreements, which means that either they have already shared the land and now have rights over half of it (Kwame), or they are in process of completing their contracts and therefore they will obtain farming rights of their share of land at some point in the future (Moses, Lisa). Two farmers had even completed their contracts (i.e. the trees were already bearing fruits) and they were just

waiting for the land to be officially shared (Obed; Anita). Although these farmers were also abusa sharecroppers for other farms (with the exception of Anita, who despite being registered as a sharecropper was only working on her abunu land), they all used their abunu and not their sharecropping farm to join the SSC programme. This indicates that despite being registered as sharecroppers, they have joined the certified group using their current or future land entitlements.

Fourth, and closely linked to the above point, cases of sharecroppers joining a certified group using their sharecropping farm are exceptional. This research has identified only one such case, that of Alhassan, who lacks land entitlements and would not have been able to join a certified group otherwise (see Table 12). Nevertheless, Alhassan's farm owner, who is still a resident in the community, allowed him to keep the passbook for the farm he is operating and use it to join the Cocoa Life group. As a result, Alhasan not only is able to attend Cocoa Life meetings and training events, but he also receives the certification premium for his share of cocoa, unlike other non-registered sharecroppers of certified farms. Commenting on the uniqueness of his case, Alhassan highlighted the importance of "working" the relationship with the landowner. In this case, landowner and sharecropper had a clearly good relationship, based on mutual respect and trust which involved exchanges of favours and gifts. Following Robertson's (1987) classification, it can be argued that the land owner regarded Alhassan as a tenant rather than a labourer, able to entirely manage the farm on his own, without supervision (see section 2.4). In fact, although Alhassan's farm owner was present in the community, Alhassan had the freedom and responsibilities of a sharecropper of an 'absentee' farm owner. The personal characteristics of the farm owner also appear to play a role. Alhassan's landowner is an important leader at the community level and also an active member of the board of the Cocoa Life group. Although not the chief, he is in practice considered as a figure which provides ethical and organisational guidance in the community, being one of the elders and in charge of the communal work group. These characteristics are likely to have influenced his decision to facilitate Alhassan official access to the Cocoa Life group. It is probably not a coincidence that he was also the only landowner among the interviewed farmers to have allowed his wife to hold a passbook for the share of land she was cultivating, a fact which allowed her to register

with the certified group and receive direct benefits, while other wives working on their husband's land did not had this opportunity.

To recap, a combined analysis of interviews with implementing, certifying and producing actors and membership lists of the two certified groups operating in the case study community suggest that farmers registered as sharecroppers or tenants not only are the minority, but also tend to be in reality farmers who have, or are about to obtain, land entitlements through abunu contracts. On the contrary, cases of sharecroppers with no land entitlements able to join certified groups appear to be scarce and subject to the farm owner personal characteristics and the sharecropper-landowner relationship. Additionally, the research has identified the paradox of "ghost farmers", where registered farmers are not engaged in certification related activities (and often not even in cocoa farming activities), while farm operators involved in the production of certified cocoa are excluded from SSC incentives. It is unclear whether this exclusion is a result of official eligibility criteria or farmer's own perception of who is eligible to join a SSC programme. In any case, these findings suggest that land ownership and entitlements are essential for joining certification programmes and are shaping in practice the cut-off point between the farmers who are able to join certification programmes and those who are not. Building on this finding, the next section explores how farmers come to obtain land entitlements and finally own land, and how this relates to their eligibility status.

6.4.Life trajectories, land entitlements and eligibility

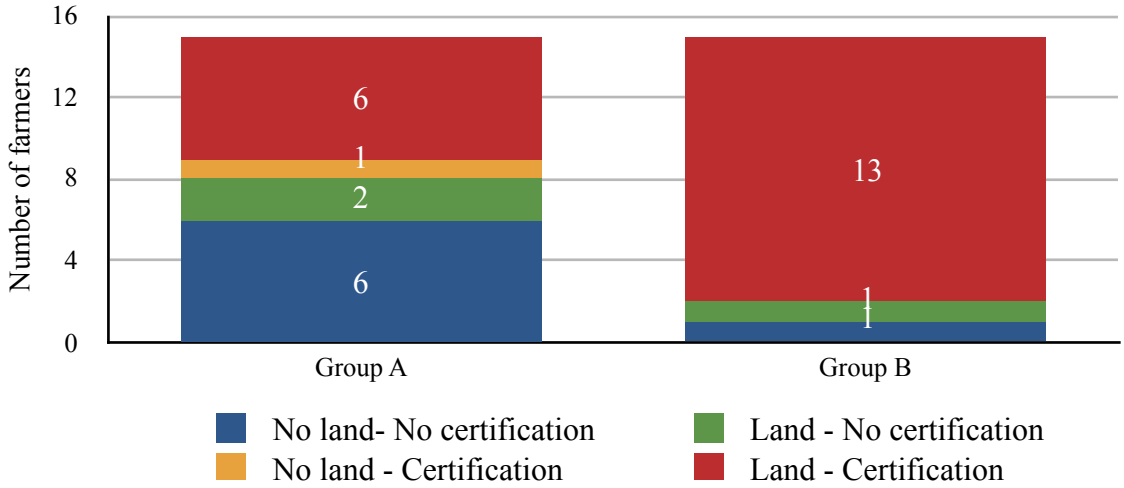
This section investigates how farmers' life trajectories, land entitlements (i.e. land ownership and/or recognised rights of current or future farming rights through abunu contracts) and SSC eligibility relate. It draws on a thematic analysis of semi-structured and life history interviews with fifteen farmers who are farm operators for other farmers and fifteen farmers who have always farmed cocoa on owned or family land. To avoid confusions, the farm operators' group is labelled "Group A", while the land owning group is labeled "Group B". Emphasis is placed on the trajectories of Group A, as these are the farmers who due to lack of land entitlements tend to be excluded from SSC programmes. Their trajectories are then briefly compared with those of Group B, whose

land entitlements make them directly eligible to join certified groups. The analysis identifies common patterns in the life trajectories of the research participants as cocoa farmers, focusing particularly on how key livelihoods capitals (human, social and economic) shape the farmers' strategies towards acquiring land entitlements (and therefore also SSC eligibility). The first sub-section offers an overview of the findings and discusses key socio-economic differences between farmers in groups A and B (section 6.4.1). The following sub-sections focus on particular life trajectory patterns related to the accumulation of human, social and economic capitals that allow farmers to obtain land entitlements, and therefore also become eligible to join SSC programmes .

6.4.1. Overview of patterns in farmers' life trajectories

This section provides an overview of the sample in terms of key characteristics and introduces the patterns that have been identified in the trajectories of the two groups. Figure 14 illustrates the composition of the two groups by land entitlements and certification status.

Figure 14: Land entitlements and certification status by farmer group.

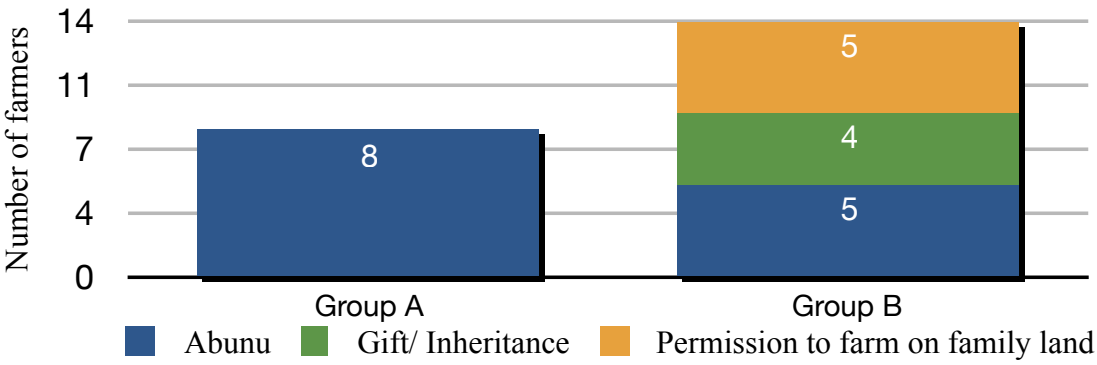


Source: Author's creation based on primary data

Among the fifteen farmers of group A, only eight have land entitlements, while in group B, farmers with land entitlements amount to fourteen. Only seven of the farmers in group A are members of a certified group, six of which have land entitlements, confirming the link between land entitlements and SSC eligibility. In group B, the

certified farmers are thirteen. Of the two non-certified farmers, one has land entitlements but did not wish to join any group, i.e. he self-selected himself out of certification, while the second one, a female farmer working on her husband's family land, reported that the lack of land entitlements prevented her from joining a SSC programme. Across the two groups there is only one farmer that is a member of a certified group without any land entitlements and that is Alhassan, whose case has been discussed in section 6.3.2. Figure 15 illustrates how farmers with land entitlements in both groups acquired their first farm.

Figure 15: Pathways to land entitlements by farmer group.



Source: Author's creation based on primary data

Land entitlements in group A result entirely from abunu contracts, while the first farm in group B is acquired mainly through inheritance and gifts, permission to land on family land,[42] but also abunu contracts. Other ways of obtaining subsequent farms include direct purchase and, in the case of PCs, press contracts.[43]

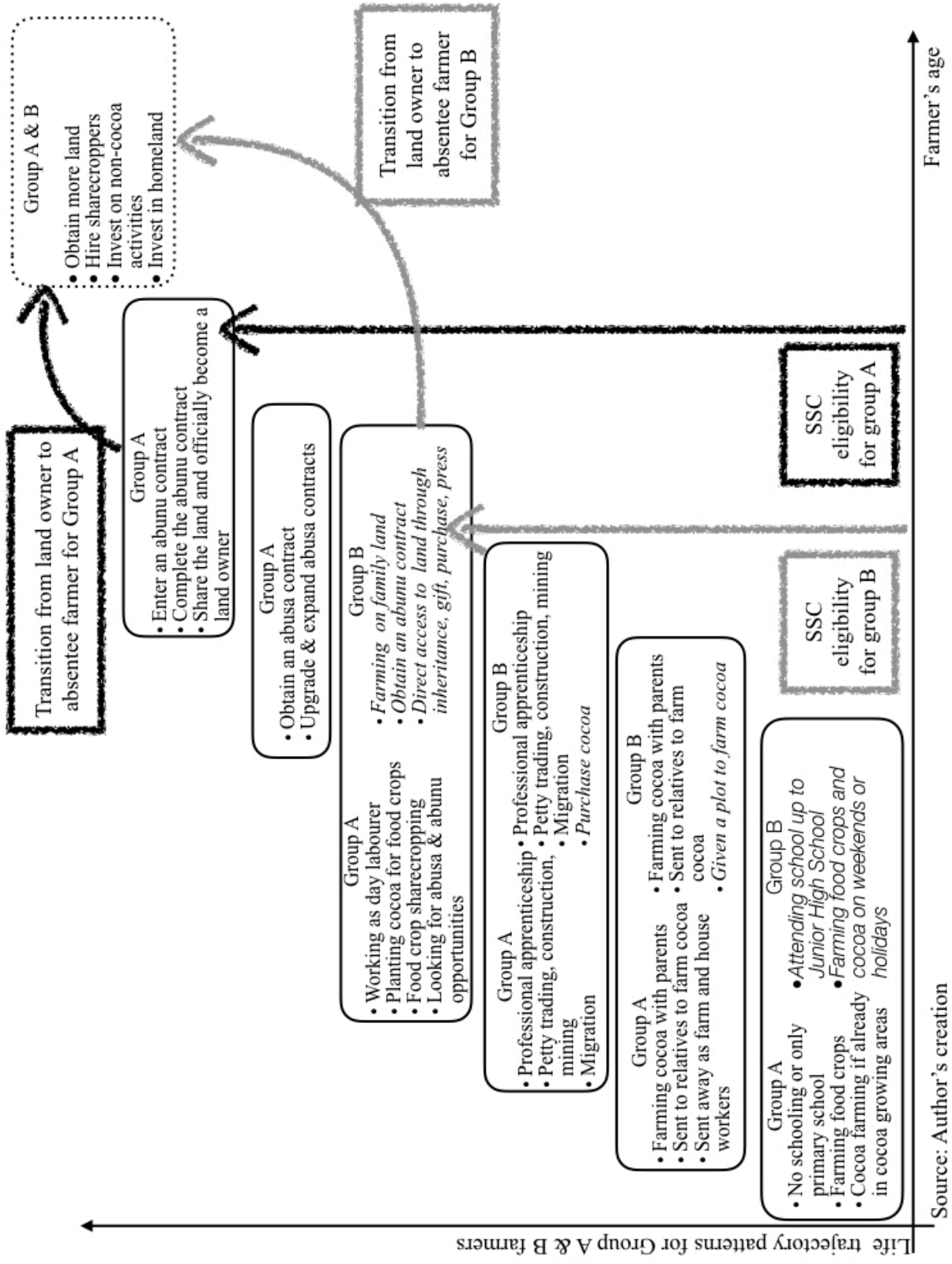
The trajectories of the two groups are relatively similar, however some differences can be observed. The key difference is that, while farmers in group B are able to access land for farming cocoa easier and earlier, group A farmers need to invest much more time and effort in order to obtain land entitlements, which tend to occur mainly through abunu contracts. This also means that it is harder for them to become eligible to join a

[42] Permission to farm on family land can be ambiguous in terms of land ownership, however, it is usually understood that if a farmer clears and plants the land, then he/she obtains permanent farming rights in the land.

[43] Press contracts are agreements during which a landowner in need of credit gives his/ her farm on "press", to somebody else to farm for a limited amount of seasons in exchange of cash money. If by the end of the agreed period the land owner is not able to repay its debt, then the farm becomes property of the person who gave out the credit, which is usually a PC.

SSC programme, and when they do so it occurs much later in their lives. Figure 16 illustrates the life trajectory patterns of the two groups, highlighting the differences in italics. These are further discussed in the following sections.

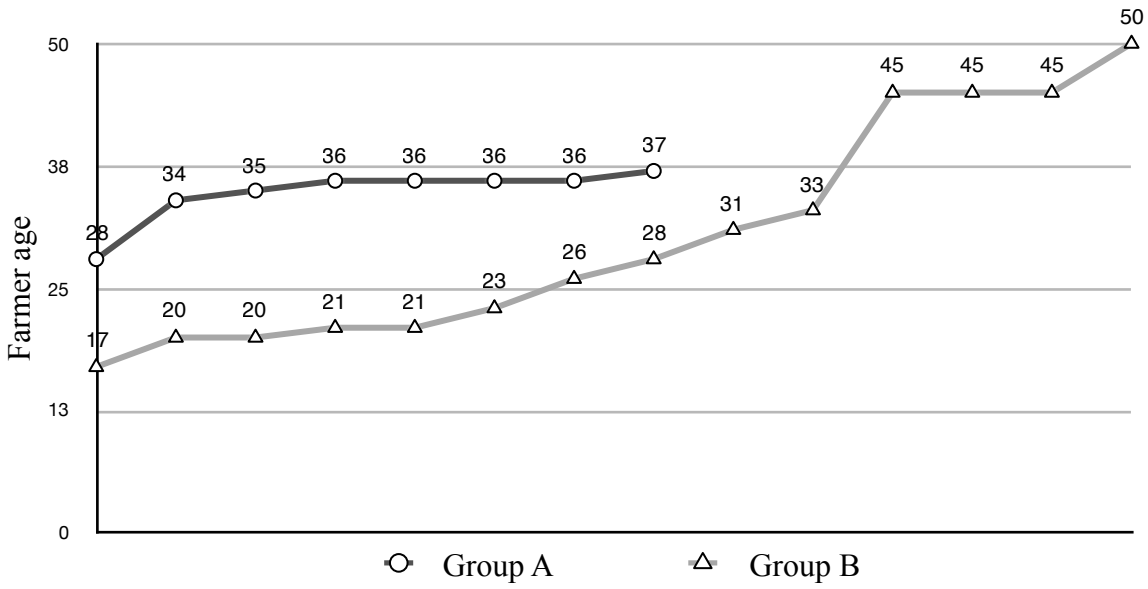
Figure 16: Life trajectory patters and SSC eligibility



In order to obtain land entitlements, which will also provide them with SSC eligibility status, farmers in group A need to accumulate the necessary human, social and economic capitals which will enable them to acquire land on abunu terms, the main pathway to land ownership available to them. Primary data suggest that abunu contracts are becoming increasingly difficult and expensive to obtain, reflecting the increasing scarcity of land suitable for cocoa farming, as reported by Boni (2005) (see section 2.4). It is indicative that farmers who have recently acquired abunu contracts were required to pay an initial amount to the land owner varying between 700 GHS and 3000 GHS (depending on the size of the land),[44] whereas the former generation of cocoa farmers is reported to have entered abunu contracts without paying this entrance fee.

As the land market is becoming more competitive, potential tenants need effective networking to identify abunu opportunities (i.e. social capital), demonstrable cocoa farming experience and skills to convince the owners to trust them with their farms (i.e. human capital), plus readily available money to pay the entrance fee of the agreement (i.e. economic capital). As a result, Group A farmers are unlikely to obtain their first abunu contract before their mid-thirties, as Figure 17 illustrates.

Figure 17: FarmerAge and first land entitlements by farmer group.



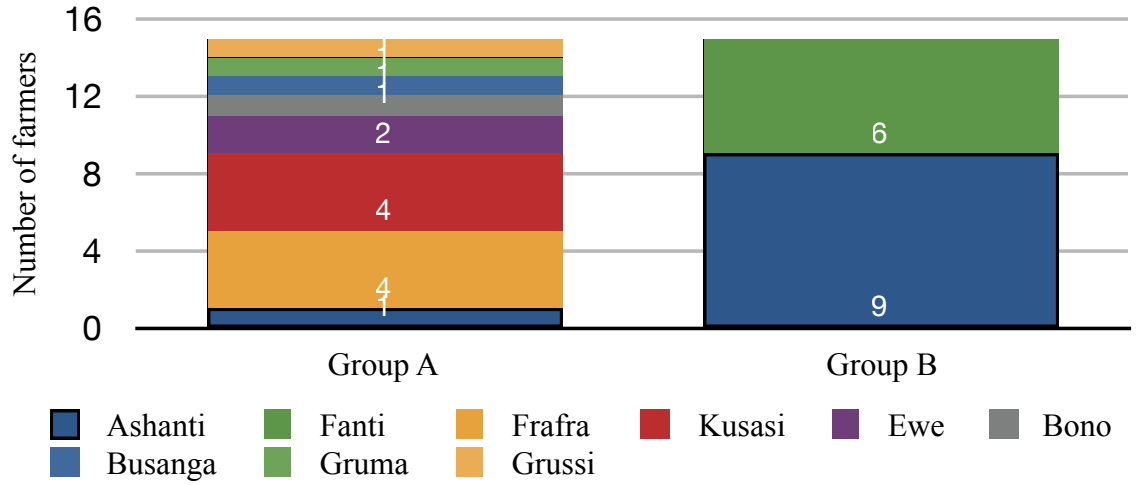
Source: Author's creation based on primary data

[44] The equivalent of 100 to 500 GBP

The above does not apply to farmers in group B who obtain land entitlements mainly in their twenties through direct transfers of land (i.e. inheritance, gifts, permission to farm on family and), or using their human, social and economic capitals to acquire land, through direct purchase or abunu arrangements. Cases of group B farmers who obtained their first land entitlements in their mid and late 40s also exist, however, they are less common. These tend to be farmers who were settled in urban centres and engaged in cocoa farming at a later stage in life when family land became available.

Both groups are composed by migrant farmers of first, second or even third generation, who settled in the research community to farm cocoa. In group A, eleven out of fifteen farmers are from the northern regions of the country, or from Burkina Faso (i.e. Kusasi, Gruma, Frafra and Grussi), while two belong to the Ewe ethnic group and have migrated from Togo. Only one is an Ashanti, the ethnic group who is considered to be predominant in the area. Finally, there is only one case of a Bono farmer, the ethnic group who is indigenous of the Brong Ahafo region. Farmers in Group B, on the other hand are either Ashantis (n=9) either Fantis (n=6) with hometowns in the Ashanti and Central region. Figure 18 presents the ethnic group composition of the two groups.

Figure 18: Ethnic group by farmer group

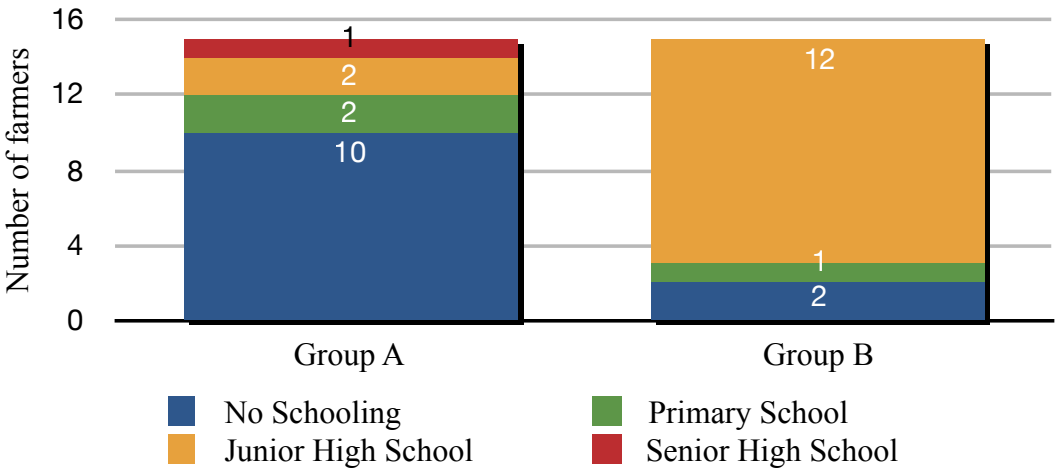


Source: Author's creation based on primary data

This demographic distribution suggests that farmers who tend to lack land entitlements and therefore SSC eligibility status, are the ones who migrate from poorer areas with greater deficiencies in terms of public services and infrastructure, like the northern

regions of Ghana (Kolavalli and Vigneri, 2017) . Possibly linked to being raised in poorer areas, farmers in group A have no, or limited, formal schooling and have spent their childhood helping with household and farming work. This was commonly attributed to lack of funds to pay for school expenses, lack of schools in the area, or child work, i.e. caring for younger siblings or farming. The loss of a parent was also reported as a reason for not attending school, as it signified a loss in income plus an increased need of family labour. This contrasts heavily with farmers in Group B who in their majority have completed secondary education (JHS), even though they were not able to further their education due to lack of funds, or parents prioritising farming over higher education, as the case of Solomon indicates (see section 6.2.3). Teenager pregnancy was also a reason for dropping out of school and turning to cocoa farming in this group. A few cases of farmers who have not attended school at all, or were not able to finish primary education were also identified among Group B farmers. These were usually cases of farmers growing up in isolated Akuras without any school in the proximity, or being sent to relatives as a house and farm help at an early age. Figure 19 presents the schooling level of the two groups.

Figure 19: Schooling level by farmer group



Source: Author's creation based on primary data

Interestingly, what both groups of cocoa farmers have in common is their aspiration to move out of cocoa farming in the future. This is reflected by attempts to escape cocoa farming at the beginning and towards the end of their life trajectories. Farmers in group A attempt to do so by trying their luck with non-farming activities, usually in their early twenties. This can take the form of an apprenticeship that would allow them later to

generate non-farm income, or engaging directly with non-farming activities (e.g. petty trading, construction and mining jobs).These attempts are usually short-lived and farmers tend to return back to (cocoa) farming as a main livelihood activity within approximately five years. The case of Abdulai who tried his luck as an ambulant ice-cream seller in Cote d'Ivoire before returning to farming and finally settling down as a cocoa sharecropper is a typical example (see section 6.2.1). This pattern also appears among farmers in group B, however, it is less pronounced. This may be because farmers in this group have access to land to farm cocoa, and therefore do not need to look for other economic alternatives. Paradoxically, it is farmers in group B, who already have access to land, who are better positioned to find better alternatives to cocoa farming, due to their higher schooling levels but also better access to financial and social capital to fund apprenticeships and set up trading activities. As a result, many end up combining both, cocoa farming (often with the help of sharecroppers) and non-farming activities.

Most importantly, however, the aspiration to escape cocoa farming, or farming in general, also extends to the farmers' future plans. Farmers who already had land entitlements overwhelmingly stated that they were planning to return to their hometowns once their farms were stabilised and could be left to the care of sharecroppers. This does not apply only to wealthier and middle-age land owners, such as Solomon, but also to younger sharecroppers who have just started working on their abunu contracts, like Moses. The following quote is characteristic of this thinking:

"When all the [abunu] work is done I will leave a sharecropper in my place and go back to the North. I can even get my money by mobile banking, I do not even need to come back if I do not want to. I will come to supervise the sharecropper once in a while". (Moses, sharecropper with land entitlements)

This creates a paradox, whereby land entitlements is the first step of disengagement of the farmer with cocoa farming and towards becoming an 'absentee' farmer. Strategies towards this direction include accumulating more cocoa farms and then hiring sharecroppers to take care of them; investing in non- cocoa farming activities, such as transportation or trading; building houses and investing in income generating activities

in the farmer's hometown in order to prepare the ground for the return. In terms of SSC eligibility status, this suggests that the main eligibility criteria, i.e. land ownership or land entitlements, is likely to target farmers who are already preparing to exit the cocoa farming sector. Although this exit process can take several years, even decades, it is worth reflecting on the implications this has for the effectiveness of SSC programmes in terms of changing farming practices on the ground. This is because farmers who are being targeted or perceived as eligible to participate tend to see themselves as future "absentee" farmers whose farms will sooner or later be taken care of by, typically non-eligible, sharecroppers. The discussion now turns to the role of key livelihood capitals in acquiring land entitlements and therefore SSC eligibility.

6.4.2.Human capital

Before accessing or acquiring land to farm cocoa, farmers need to demonstrate that they have the skills, knowledge and ability to manage a cocoa farm independently, i.e. they need the adequate human capital. Farming experience, particularly in cocoa, is key in this aspect. Farmers from both groups were involved in farming from an early age, as children and teenagers, first taking care of food crops and later of cash crops, cocoa included. Nevertheless, experiences vary according to their origins and family backgrounds, with some clear patterns emerging for each group.

Farmers in group A, who in their majority grew up in poorer rural areas in the North or East of Ghana (or in Burkina Faso or Togo) without attending school, commonly helped their parents with farming tasks on a daily basis. They gradually extended their level of responsibility, taking care of food crops for family consumption (e.g. maize, sorghum, millet, groundnuts, beans, rice), but also commercial crops, such as groundnuts and onions. Some of the farmers in this category were also involved in handling livestock, such as goats and sheep or cattle. For farmers in group A who had access to family land, it was common to start farming food crops on their own around the age of fifteen. This allowed them to "upgrade" in their responsibilities and autonomy as farmers. The produce from these farms was still considered to be family income. However, interviewees commonly stated that they could seek permission to use it for their

personal needs or even, later on as young adults, to pay the bride price of their first wedding.

These farmers, who grew up without any cocoa farming experience, typically had to spend a period of their life as young adults to learn how to farm cocoa, working in cocoa farms of relatives or friends. Data from life histories indicate that this cocoa farming 'internship' period can vary between two and eight years. No payment is usually involved, besides basic provisions such as food and housing, and occasionally personal items. It is common, however, at the end of this 'internship'period, for the farm owner to provide a small amount of money, ranging between 50 and 150 GHC,[45] and a relatively valuable 'graduation' gift (i.e. a bicycle, construction material, clothing and shoes, etc.) that would help the 'intern' make a new start. 'Interns' tend to also work as day-labourers during this period, to cover for their personal needs and possibly save some money for later. Among farmers from group A there are also those who were sent to relatives in cocoa growing areas from a very young age to help with house and farming tasks . These got involved in cocoa farming as soon as they were able to do basic farm work. As in the case of 'internships', this work was not remunerated, but was regarded by the 'host' farmer as a contribution to the household economy in exchange of food and housing, and by the young 'guest' as an opportunity to build human capital and graduate as an independent farmer.

Overall, findings from the life history analysis suggest that teenagers and/or young adults lacking human and natural capital to start farming on their own are willing to do unpaid work for some years in order to obtain the necessary skills and experience that would allow them to transit to abusa, and later on to abunu, contracts.The stories of Abdulai an Moses confirm that. Nevertheless, in the particular case of Abdulai, the 'internship' was arranged without the informed consent of the intern, and in terms that border labour exploitation:

"I never got to know the negotiations my uncle had with the Madame. I never received a penny for my work on that farm, my uncle kept all the money he collected on my

[45] The equivalent of 8 to 24 GBP.

behalf. I don't even know how much she was paying for, I only got where to stay and eat." (Abdulai, 29 years old, sharecropper)

Abdulai's case clearly fits the emerging pattern of 'unpaid internship with graduation gift' described above. However, by saying that he 'only got where to stay and eat' Abdulai contradicts himself, as throughout this experience he was clearly conscious that this, otherwise exploitative, situation was also an opportunity to acquire the skills and experience he needed to "survive on his own". In other words, Abdulai's 'internship' was also advancing his own interests, by enabling him to built the human capital that would enable him to pursue cocoa farming as a livelihood strategy (Mosse, 2005; Scoones, 1998), and which eventually allowed him some years later to become a sharecropper (and will possibly help him obtain land entitlements in the future).

Most farmers in Group B acquired some cocoa farming experience as children, since their parents were already involved in cocoa farming. However, the level of wealth of the parents differs significantly, and while some farmers had to skip school and become heavily involved into farm and house work, others experienced cocoa farming as an entertaining activity in the margins of school. Solomon, for instance, the son of a large cocoa farmer describes his experience with cocoa farming as a child as follows:

"As a wealthy farmer's son, I only went to there during the weekends to get food crops for the house. I really didn't go there to weed or prune cocoa trees". (Solomon, farm owner)

Solomon's comment points to the fact that wealthier farmers experienced cocoa farming as a fun off-school activity which did not involve any seriously heavy work such as weeding or pruning. This means that despite having more years of schooling, Solomon lacked real skills and experience with cocoa farming until he obtained his own land. In other words, he lacked the specific human capital to farm cocoa. To overcome this shortage, he drew on his social and economic capitals: he relied heavily on his father to learn how to farm cocoa but also on his father's economic capacity to hire day labourers to establish the farm. Additionally, once the production was stabilised, Solomon 'outsourced' the management of two-thirds of his land to sharecroppers. It can be

observed therefore that Solomon did not need the same human capital as Abdulai in order to pursue the same livelihood strategy, i.e. to farm cocoa. Instead, having the possibility to use other livelihood resources, mainly his economic and natural capital he was able to access sharecropping labour and overcome any shortages in terms of practical farming skills. This was also noted in group B farmers who grew up in urban centres and lacked farming experience and skills, but made use of their social and capitals, as well as family land to transit to cocoa farming. Such differences illustrate the heterogeneity among cocoa producing actors, and how their different needs shape different interests, from accepting unpaid (and even exploitative) labour conditions to outsourcing farm work to sharecroppers.

6.4.3. Social capital

Social capital, understood as "investment in social relations with expected returns" (Lin, 1999: 30), is key in acquiring land entitlements for farmers in group A. This is because farmers in search of either abusa or abunu opportunities can benefit enormously from an active network of people already involved in cocoa farming who can inform of emerging opportunities, and mediate to the farm owners in their favour to finalise the agreement. This is the case of Abdulai, who clearly relied on his friend Moses (and Moses' social network) to get his first sharecropping farm. In the process, however, he had to spend several long periods helping Moses with his sharecropping farm without remuneration, while weeding other people's farms as a day labourer in parallel.

Marriage is another form of investment in social capital that can facilitate the acquisition of abusa or abunu contracts. This is because it provides the "social credentials" that land owners need in order to be convinced that a farmer, with his wife's labour contribution, can manage successfully their farm. Collected life histories of male sharecroppers suggest that securing the first abusa contract and marriage are two events that often occur very close one to the other, at least for those who engaged with cocoa farming at a young age. There is no clear pattern on which event precedes the other. It is the case, however, that soon after getting married (or finding a partner), a landless male farmer is able to secure his first sharecropping farm, while when a single

male farmer obtains his first abusa contract the tendency is to get married soon after. Moses's comments illustrate how marriage is linked to such contracts:

"When you become a sharecropper you need a wife to help you. If you go to the farm and you are drying cocoa, somebody must be at home to attend the cocoa. If it rains, you spoil the cocoa beans. You also need someone at home to be turning it in the sun. There must be somebody around cooking for you, maintaining the house. You need a wife. And even the farm owners, if you don't have a wife, they will not give you [the farm]. It's one of the characteristics farm owners look out for" (Moses, sharecropper with land entitlements).

Moses explicitly and consciously links his decision to get married with his sharecropping status. Female labour within the institution of marriage is regarded as an indispensable element of the successful management of a sharecropping farm. Besides being a source of labour, marriage is also valued for its capacity to positively influence land owners in their decision to trust a sharecropper with their farm. In this case, Moses commented that the land owner of his abusa farm directly advised him to get married because he thought that otherwise he would not be able to manage his farm properly. In other words, Moses status as a married man convinced his land owner to trust him with his farm. Therefore, in this context marriage becomes a social capital investment that allows the transition from labouring to sharecropping.

6.4.4.Economic capital

Besides human and social capital, farmers also need economic capital in order to obtain land entitlements. Group B farmers tend to have the economic capital available to purchase land directly, or to hire the labour force needed to establish and maintain cocoa farms, as Solomon's case illustrates. On the contrary, group A farmers who tend to lack readily available financial resources, as well as the human and social capital, to obtain land entitlements, rely mainly on their (and their wives') labour force to upgrade and expand in order accumulate the economic capital needed to enter abunu contracts.

Upgrading refers to moving to larger, better maintained and overall more productive farms, that can provide better income with less effort. An example is provided by Mustapha, one of Solomon's sharecroppers. Driven by his interest to accumulate economic capital, Mustapha did not hesitated to change three sharecropping farms within a year, each time moving to a bigger and better maintained farm. Upgrade may also refer to a sharecropper being able to enter an abunu contract that will eventually provide land entitlements. Expanding, on the other hand, refers to increasing the number of hectares a farmer is managing as a farm operator, both in abusa and abunu terms. Female family labour is again key in both upgrading and expanding processes. Moses comments on his decision to marry Aisha, his second wife, illustrate this point:

"With two wives, when one isn't around to manage the house, the other one would be. For me cooking is a very difficult task. But with two wives, if one has to travel the other can cook and take care of the children" (Moses, sharecropper with land entitlements).

Moses' quote highlights the importance of female labour particularly for northern migrant farmers who often undertake long trips back and forth to their hometowns and which result in the couple being separated for weeks or even months. Given the importance of female labour underlined above, having an extra wife to avoid labour shortages both at home and at the farm becomes crucial, particularly when the household is faced with increased workload. In the case of Moses, his marriage to Aisha allowed him to secure the extra labour he needed to both expand (by acquiring two more sharecropping farms) and upgrade (by acquiring his first abunu contract). Interestingly, Moses was working on the abunu farm, which was going to result in land ownership, with Loretta, his first wife, while he planned to send Aisha to his third sharecropping farm, an Akura isolated from his others farms. His choice reflects the power relationships between wives within the household. While Loretta was ensuring with her labour that her children were going to inherit their father's abunu farm in the future, Aisha and her children were facing the option of having to work and live in an isolated place where no school or other services were available. Aisha did not want to to go, however, Moses was very clear about his decision:

“The work is for all of us, the money is for all of us. If I say the younger should go, she will go. If I say the older should go, she will go. Ideally the younger one should be the one to go. She would be the one to stay there”. (Moses, sharecropper with land entitlements)

The above quote suggests that Moses not only made use of his wive’s labour force to transit from sharecropping to land ownership, but also unilaterally took decisions on how this labour should be distributed. In this particular case, Aisha had clearly no power to decide, or even influence her husband's decision, about where she should work and live with her children. It is also unclear whether she would be able to access and manage the income resulting from her work as a sharecropper. Considering that Aisha was set to sharecrop a Fairtrade certified farm whose owner was a board member of the Cocoa Life group, it is also highly questionable that Aisha would be able to benefit from either SSC premium or training. These observations further highlight the importance of grasping the heterogeneity that exists not only within the productive actors (i.e. farm owner versus farm operator) but even within households (i.e. first wife versus second wife). This heterogeneity results in different interests and livelihoods strategies, including positions vis-a-vis SSC programmes. In this case it becomes clear that women farming along with their sharecropping husbands, are even more invisible to implementing and certifying actors both in terms of eligibility to participate and ability to receive benefits from their contribution in the production of certified cocoa.

6.5.Implications of findings

The main implication of the findings of this chapter is that by failing to incorporate farmers with no land entitlements in cocoa SSC programmes a policy gap is created, whereby an important section of the farmers involved in the production of certified cocoa are not being officially considered both in terms of standards implementation and distribution of benefits. First, farmers with no land entitlements producing certified cocoa, such as sharecroppers and their wives, are unlikely to follow the training on GAP or to receive any SSC related incentive. Although one of the two SSC programmes operating in the community was open to training non-registered farmers, the analysis

has shown that in practice farmers considered as non-eligible, particularly those with limited social capital, are unlikely to engage with SSC related activities. Second, sharecroppers (and their wives) working in certified farms appear to be systematically excluded form any material of financial incentive resulting from certified production (i.e. premium, agricultural inputs, etc), which tend to accrue to the farm owners, even when those are no longer farming. Implementing and certifying actors are aware of this policy gap but they seem reluctant to interfere in the landowner-sharecropper relationship and dictate how benefits should be distributed. Nevertheless, if funding, certifying and implementing actors truly aspire to bring change through SSC programmes in the cocoa farming practices, then they will have to effectively train and incentivise those who are actually producing the certified crop in order to see their goals materialised.

Moreover, linking eligibility to participate in SSC programmes to land entitlements means that the majority of younger farmers, who tend to lack land entitlements, are likely to be automatically excluded from SSC programmes. This heavily contrasts with increasing concerns of the cocoa industry that the cocoa farming population is ageing and therefore not able to adopt the farming innovations needed to modernise and intensify cocoa production (i.e Fick, 2015; Löwe, 2017). The fact that both cocoa farms and the farming population of Ghana are "ageing" is projected as one of the sector's main problems and several interventions are currently implemented in order to "revitalise" the sector by incentivising young people to get involved in cocoa farming (e.g. the "Youth Forward Initiate" funded by the MasterCard foundation).[46] A policy paradox therefore emerges: while the SSC funding actors want to engage younger people in cocoa farming, SSC implementing and certifying actors target mainly farmers with land entitlements who are inevitable older (see Figure 16 for an illustration of the age that farmers are first able to obtain land entitlements). The analysis of farmers' trajectories shows that land entitlements come at a later stage in a farmer's life as they are commonly linked to skills, experience, capital, social connections and ability to mobilise labour, things that young people tend to lack. In fact, young people with land

[46] For more see http://www.mastercardfdn.org/the-mastercard-foundation-launches-innovative-us74-million-youth-employment-initiative-in-ghana-and-uganda/

entitlements, or the human, social and economic capital to obtain land would probably also be able to find better income generating opportunities than cocoa farming. If the funding actors (i.e. cocoa and chocolate companies) want to engage young people with skills and resources in order to "revitalise" and "modernise" cocoa production , they would need to make sure profits from cocoa production are also higher. Beyond increasing production yields, this probably means paying more to attract skilful talent with resources to invest into the cocoa sector. If however, the aim is to engage the young people that are already involved in cocoa farming as labourers and sharecroppers (and their even more invisible wives), SSC programmes should recognise their presence and contribution and include them both in terms of training activities and distribution of benefits.

6.6.Conclusion

This chapter addressed the second sub-question of the thesis and examined which farmers are eligible to participate in SSC programmes and how they reach this eligibility point. The chapter began by outlining the life histories of three selected farmers who make recurrent appearances in the analysis: a sharecropper, a sharecropper who is also a tenant farmer and therefore has land entitlements and a farm owner. It then provided a discussion of how implementing, certifying and producing actors perceive who is eligible to enrol in SSC programmes and who is not. It became clear that farm operators are generally perceived as non-eligible, unless they are 'standing in' for farm owners that do not reside in the community and therefore cannot engage with the programme activities. This conclusion was followed by an analysis of the membership lists of the two certified groups operating in the research community. The discussion pointed to the fact that farm operators not only are the minority among the certified farmers, but also their official numbers are inflated by the presence of "ghost" members who are not actively participating in the programme, as well as that of farm owners to be through abunu contracts registered as farm operators. Combining these results it was concluded that farmers are rarely able to join SSC programmes without land entitlements and therefore they are a fundamental element of membership in SSC programmes.

Building on this key finding, the following section provided an overview of the patterns identified in the trajectories of farm owners and farm operators and discussed in greater detail how farmers' human, social and economic capitals can lead to land entitlements and hence SSC eligibility status. It was highlighted that farm operators tend to undertake long unpaid cocoa 'internships' in order to built the human capital they need to farm on their own. They are also keen on investing in their social networks providing free labour in exchange of information and mediation related abusa and abunu opportunities. Finally, they attempt to accumulate economic capital by expanding their farming hectares and upgrading to larger and more productive abusa farms. In these processes marriage is key in securing extra family labour but also in providing land owners with the assurance of successful farm management. Farm owners, on the other hand, do not need to go through the 'internship' phase as they tend to either have direct access to land, or possess the human, social and economic capitals necessary to acquire land. As a result they obtain land entitlements and SSC eligibility status much earlier in their lives. The last section of the chapter looked at the the implications of these findings. It was highlighted that a policy gap emerges whereby farmers who produce certified cocoa but lack land entitlements, such as sharecroppers and their wives, are not being officially considered both in terms of training in standards and distribution of incentives. Linking eligibility to land entitlements also excludes the majority of young farmers who, although already involved in cocoa farming, tend to lack land entitlements. This represents another policy paradox, whereby while cocoa and chocolate industry actors appear preoccupied by the ageing population of cocoa farmers, the SSC programmes they are funding tend to overlook and exclude this exact same section of the producing population as non-eligible. With these reflections in mind the next chapter turns to participant selection and explores how already eligible farmers finally select in or out of SSC programmes.

7. Unpacking participant selection

7.1. Introduction

This thesis has so far explored how SSC actors' interests and livelihood capitals shape programme placement (chapter 5), and eligibility processes (chapter 6). Both chapters discussed how SSC funding, implementing and certifying actors select participant farmers by targeting particular geographical areas and farmers' communities and through implicit participation eligibility criteria. This chapter is concerned with participant selection, i.e. which farmers actually join SSC and focuses particularly on the processes by which farmers self-select themselves into SSC interventions. In doing so, it addresses the third sub-question of the research (RQ3):

How do farmers select in or out of cocoa SSC programmes?

The analysis in this chapter is sequenced as follows. First, section 7.2 presents an overview of the findings from the quantitative analysis. While in chapter 5 the probit model was informed by the qualitative analysis due to the lack of programme placement theories, here it was possible to model selection based on insights from the literature review of participant selection determinants presented in section 1.3. Key quantitative findings were then integrated to the qualitative analysis presented in section 7.3, following thus the inverse processes of that in chapter 5. Finally, section 7.4 summarises the key findings and concludes.

7.2. Overview of main quantitative findings related to selection processes

The literature review on participant selection determinants (see section 1.3) indicates that variables related to natural, economic and human livelihood capitals , such as land size, livestock ownership, possession of farming equipments, access to credit, access to labour, schooling and agricultural extension, as well as farming experience can be influential in shaping participant selection into SSC interventions. Based on these

indications and in combination with the availability of explanatory variables provided by the GCFS data set,[47] a probit model was specified to explore factors that can influence the likelihood of a farmer being a member of the Fairtrade certified cooperative/LBC Kuapa Kokoo.[48] The model considers variables related to the natural capital of farmers (land size; land ownership), human capital (e.g. age; education, sex of household head), and economic capital (non-cocoa income, livestock, farming equipment, savings, use of loans). As a proxy of social capital, the years of residence in the village were included in the analysis, assuming that longer residence favours the "possession of a durable network" which is linked to social capital (Bourdieu, 1986:21). The same variable can also serve as a proxy for farming experience, i.e. for human capital. The number of buyers used by the farmer within the same harvest season, serves as an indicator of side-selling as well as of farmers' social capital, as it can reflect the affiliations and associations that allow farmers to pursue SSC as a farming strategy (Scoones, 1998). Labour related variables, like use of household and sharecropping labour are also included, as they can inform on the use of certification as a labour-led agriculture intensification strategy (Carswell, 1997). A description of the variables used to model farmers' Kuapa Kokoo membership is provided in Appendix 18. The probit model used to estimate the probability that a farmer is a member of Kuapa Kokoo is specified as follows:

$$
\begin{aligned}
&Pr(Kuapa\ Kokoo\ member = 1) \\
&\quad = \beta_0 + \beta_1 \text{ cocoa plot (ha)} + \beta_2 \text{ \% land owned} + \beta_3 \text{ age} + \beta_4 \text{ sex (1 = male)} \\
&\quad + \beta_5 \text{ years of schooling} + \beta_6 \text{ household labour contribution (days)} \\
&\quad + \beta_7 \text{ caretaker (1 = yes)} + \beta_8 \text{ non cocoa income (1 = yes)} + \beta_9 \text{ livestock (n)} \\
&\quad + \beta_{10} \text{ farming equipment (1 = yes)} + \beta_{11} \text{ savings (1 = yes)} + \beta_{12} \text{ loans(1 = yes)} \\
&\quad + \beta_{13} \text{ years in village(n)} + \beta_{14} \text{ buyers (n)} + \text{u}_{\text{i}}
\end{aligned}
$$

The analysis uses observations from the GCFS data set with access to Kuapa Kokoo, i.e. farmers residing in villages where Kuapa Kokoo operated and therefore had the possibility to become members of the Fairtrade cooperative/LBC, even if they did not. Observations of farmers without access to Kuapa Kokoo and thus no possibility of membership, were excluded from the analysis. The full sample of the analysis presented below, therefore, refers to the 284 farmers with access to Kuapa Kokoo and not to the

[47] See section 4.5.1. for more details on the GCFS dataset

[48] For more details on Kuapa Kokoo see section 2.5

entire GCFS data set.[49] Table 14 presents the cross-tabulations of farmers with access to Kuapa Kokoo according to membership status across the three regions covered by the GCFS dataset.

Table 14: Farmer categories by membership status and region

Region	Non-Members		Members		Total	
	N (1)	% (2)	N (3)	% (4)	N (5)	% (6)
Ashanti	48	52.17	44	47.83	92	32.40
Brong Ahafo	34	80.95	8	19.05	42	14.78
Western	105	70.00	45	30.00	150	52.82
Total	187	65.85	97	34.15	284	100

It can be observed that the percentage of member farmers is higher in the Ashanti region (47.83%), followed by the Western region where the same percentage is 30% (column 4, Table 13).[50] On the contrary, Kuapa Kooko appears to have less members in the Brong Ahafo region, where only 19.05% of the farmers who participated in the survey were affiliated to the Fairtrade certified LBC.

Descriptive statistics across and within regions are very similar to those presented in Table 9, section 5.2.2, therefore will not be discussed here again. It is only worth commenting on the variables that are not covered by the analysis in chapter 5. For instance, on average the interviewed farmer has a relatively high land ownership percentage (87%), a figure that could be linked to the fact that non-owners, such as abusa sharecroppers tend to be under-represented in survey samples, possibly inflating the land ownership percentage (Kolavalli and Vigneri, 2017). Moreover, the average household head is over fifty years old, confirming reports of an ageing cocoa farming population (e.g. Fick, 2015; Löwe, 2017). Finally, 12.5% of the farmers own tree felling equipment, while 54% have reported making use of loans. Descriptive statistics for the

[49] The reader is reminded that chapter 5 examines differences between farmers with and without access to Kuapa Kokoo and factors that can influence the presence or absence of the cooperative in a certain area.

[50] A map of the cocoa producing areas in Ghana can be found in section 2.3

rest of the variables can be found in Appendix 19 for the full sample and in Appendix 20 by region.

Turning now to the investigation of selection determinants of farmers into Kuapa Kokoo, the analysis first explores statistically significant differences between members and non-members of Kuapa Kokoo in the full sample (Table 15), while Appendices 21 and 22 provide the same information for the Ashanti and Western regions.[51] The Brong Ahafo region has been omitted from the within region analysis, as the number of farmers affiliated to Kuapa Kokoo is very low (n=8) to allow statistical tests.

Table 15: Mean characteristics by membership status, full sample.

			Non- member		Member		
		Obs	Mean	St.dev	Mean	St.dev	T-test
(1)	Area of cocoa plot (ha)	284	6.795	5.786	6.494	6.67	1.557
(2)	Owned land/total land (%)	284	0.87	0.28	0.87	0.27	-0.030
(3)	Age	282	50.1	14.5	51.99	15.1	-0.952
(4)	Sex (Male:1)	284	0.87	0.335	0.77	0.42	4.462**
(5)	Years of schooling (n)	284	7.57	4.28	7.06	4.56	0.891
(6)	Household labour (days)	280	91.55	109.78	99.47	114.8	-0.501
(7)	Caretaker (Yes:1)	281	0.294	0.457	0.351	0.48	0.943
(8)	Non cocoa income (Yes:1)	263	0.89	0.31	0.83	0.38	1.99
(9)	Livestock (n)	284	4.14	9.43	4.26	11.25	0.038
(10)	Farming equipment (Yes:1)	280	0.092	0.29	0.187	0.39	5.217**
(11)	Savings (Yes:1)	283	0.473	0.5	0.412	0.495	0.95
(12)	Loans (Yes:1)	282	0.554	0.498	0.51	0.50	0.478
(13)	Years in village	282	39.29	20.54	43.375	18.67	-1.768
(14)	N of buyers	284	1.417	0.753	1.794	0.80	-4.6***

Note: For the Wilcoxon-Mann-Whitney test, test statistic is z-score. *** p<0.01, ** p<0.05, * p<0.1

[51] The normality of continuous and discrete variables is tested with the Shapiro-Wilk normality test (Appendix 23). The hypothesis of normal distribution is rejected for all the variables and thus the WMW test, which does not assume normal distribution, is used to test for statistically significant differences between members and non-members of Kuapa Kokoo. For categorical variables, the Pearson's chi-square test is used to test for the statistical significance of the relationship between membership status and categorical variables.

Across regions, it can be observed that among farmers who are members of Kuapa Kokoo there is a higher percentage of female-headed households (23% versus 13% in non-members, see row 4, Table 15) and a higher percentage of farmers who own tree felling equipment (19% versus 9%, see row 10, Table 15). It is hard to explain these statistically significant differences, however, it is observed that both variables could be endogenous to Kuapa Kokoo membership. In other words, the observed higher percentages may be a direct result of Kuapa Kokoo membership and not a precondition. This could be the case if, for instance, Kuapa Kokoo as a Fairtrade certified cooperative has actively targeted and engaged more female farmers in an effort to promote gender equality and empower female farmers in alignment with Fairtrade's vision and mission (Fairtrade International, 2018b). Further, it is it also possible that Kuapa Kokoo facilitated the acquisition of tree felling equipment to its members as part of its extension services. Nevertheless, this research was not able to verify these assumptions and therefore they are only flagged here as a possible hypotheses that future research could test. Finally, Kuapa Kokoo members also appear to diversify more their selling channels, as they use more buyers within the same cocoa season (row 14, Table 15).

Within regions, however, diverging and even contradicting pictures emerge (see Appendices 21 and 22). In the Ashanti region Kuapa Kokoo members have been residing in the farming village for 10 years less on average than their non-affiliated neighbours (row 13, Appendix 21). Additionally, they have significantly smaller cocoa plots (-2.4 ha) and make less use of household (-63 days) and sharecropping labour (-0.18 percentage points). Kuapa Kokoo members have also reported less savings for farm investments than non-member farmers (-0.16 percentage points) (see rows 1,6,7 &11, Appendix 21). On the contrary, Kuapa Kokoo farmers in the Western region have on average longer residencies (+ 9.8years) than non-member farmers (row 13, Appendix 22). Interestingly there are also more female farmers among affiliated farmers than non-members. Moreover, Kuapa Kokoo farmers in the Western region make more use of household (+44 days) and sharecropping labour (+0.138 percentage points) than their non-affiliated neighbours (rows 6 &7, Appendix 22). Despite these intriguing differences, a statistically significant higher percentage of member farmers in both regions have reported owning a tree felling equipment but also selling to more buyers

within the same cocoa season than non-member farmers (rows 10 &14, Appendices 21 & 22). These t-tests results, however, have limited informational value, particularly when sample sizes are small, hence the probit analysis estimating the probability of Kuapa Kokoo membership that follows.

Table 16 presents the coefficients, average marginal effects (AME) and robust standard errors in parenthesis for the variables found to be statistically significant. [52] Column 1 reports the results for the full sample, while columns 2 and 3 report results for the sub-sample for the Ashanti and Western region accordingly. The sub-sample for the Brong Ahafo region is once more omitted due to insufficient sample size. The following control variables were used but found to be statistically insignificant both across and within regions: percentage of owned land, age, use of sharecropping labour, possession of livestock, use of loans and years of residency in the village. In order to avoid distractions from the statistically significant outcomes, the results for these variables are provided in Appendix 24.

[52] As in chapter 5, AME are preferred here to the commonly used marginal effects at the mean (MEM), as they are considered "more appropriate for providing a realistic interpretation of estimation results", while MEM might refer to "either non-existent or inherently nonsensical observations", as in the case of dummy regressors (Bartus, 2005: 310).

Table 16: Probit model (Kuapa Kokoo membership)

Dependent variable: Farmer is affiliated to Kuapa Kokoo (1=yes)							
		Full Sample		Ashanti		Western	
		(1)	(2)	(3)	(4)	(5)	(6)
		Coeff	AME	Coeff	AME	Coeff	AME
(1)	Cocoa plot (ha)	-0.0385**	-0.012**	-0.167**	-0.0450***	0.0062	0.00158
		(0.0196)	(0.0061)	(0.0663)	(0.0170)	(0.025)	(0.0064)
(2)	Sex (Male:1)	-0.669***	-0.23***	-0.128	-0.00765	-1.20***	-0.34***
		(0.252)	(0.0886)	(0.390)	(0.106)	(0.407)	(0.108)
(3)	Years of schooling (n)	0.00584	0.00187	-0.0344	-0.00929	0.093**	0.023**
		(0.0220)	(0.0071)	(0.0377)	(0.0100)	(0.042)	(0.0102)
(4)	Hh labour (days)	0.000633	0.000203	-0.003**	-0.00093**	0.00144	0.00037
		(0.0008)	(0.0003)	(0.0015)	(0.00041)	(0.001)	(0.0003)
(5)	Non cocoa income (Yes:1)	-0.545**	-0.187**	-0.992	-0.255*	-0.550	-0.150
		(0.262)	(0.0923)	(0.609)	(0.137)	(0.352)	(0.996)
(6)	Farming equipment (Yes:1)	0.735***	0.256***	1.651*	0.381**	0.693**	0.193**
		(0.247)	(0.0864)	(0.844)	(0.137)	(0.323)	(0.0921)
(7)	Savings (Yes: 1)	-0.00898	-0.00288	-0.675*	-0.175*	-0.062	-0.0159
		(0.178)	(0.0570)	(0.397)	(0.0977)	(0.285)	(0.0728)
(8)	N of buyers	0.354***	0.113***	0.562*	0.152*	0.59***	0.15***
		(0.120)	(0.0366)	(0.326)	(0.0858)	(0.159)	(0.0351)
(9)	Constant	-0.0741		3.037**		-1.835**	
		(0.600)		(1.296)		(0.889)	
(10)	Observations	249	249	78	78	137	137
(11)	Pseudo R^2	0.1026		0.3004		0.2439	
(12)	Wald chi^2	30.77		39.02		32.69	
(13)	Prob>chi^2	0.0060		0.0004		0.0032	
(14)	% correctly predicted	73.09%		69.23		76.64	

(15) Note: Robust standard errors in parentheses for Probit Coeff. Standard errors in parentheses for Predicted. prob.
*** p<0.01, ** p<0.05, * p<0.1

The model for the full sample correctly predicts 73.09% of the observations. Results show that across regions, an additional hectare decreases the probability of being a member of Kuapa Kokoo by 1.2% (row 1, column 2, Table 16). This result seem to be driven by the Ashanti sub-sample where the same increase in farm size decreases the membership probability by 4.5% (row 1, column 4, Table 16). Another factor that significantly affects the membership probability is the sex of the household head, since being male decreases the likelihood of membership by 23 percentage points (row 2, column 2, Table 16).[53] This result appears to be driven by the Western region sub-sample, where a change from female to male in the sex dummy decreases the membership likelihood by 34 percentage points (row 2, column 6, Table 16). Once more, this suggests that female headed households for some reason were more likely to become certified. Given Fairtrade's goal to empower female farmers , it is possible the implementing actors externally selected female headed households by specifically and directly targeting female farmers and facilitating their certification process, although this does not explain why this occurred only in the Western region.This research cannot provide a plausible explanation based on the collected data beyond speculations. However, it is noted that it is an issue worth investigating using qualitative methods in the future. Finally, the presence of non-cocoa income appears to decrease the probability of membership by 18.7 percentage points, a result driven by the Ashanti sub-sample where the same effect is of 25.5 points (row 5, Table 16).

There are only two variables that consistently affect the membership probability across and within regions: the ownership of tree felling equipment and the number of buyers used by a farmer within the same cocoa season. The ownership of tree felling equipment increases the membership probability by 25.6 percentage points across regions, while for the Ashanti and Western regions the same effect is of 38.1 and 19.3 percentage points (row 6, Table 16). As noted above, the variable is suspected to be endogenous to Kuapa Kokoo membership, although this is not confirmed. Moreover, an additional buyer used by the farmer within the same cocoa season also appears to increase the likelihood of Kuapa Kokoo membership by 11.3% across regions, and by 15.2% and

[53] The reader is reminded that in the case of dummy variables, AME are expressed in percentage points (pp), which is the unit for the arithmetic difference of two percentages, instead of percentages (%) which indicate ratios.

15% within the Ashanti and Western regions respectively (row 8, Table 16). On the other hand, there are few variables which can significantly influence the membership likelihood only within certain regions. Schooling, for instance, is statistically significant only within the Western region, with an additional year of schooling rising the membership probability by 2.3% (row 3, column 6, Table 16). On the other hand, an additional day of adult household labour decreases the probability of Kuala Kokoo membership by 0.093% only within the Ashanti region (row 4, column 4, Table 16). Such differences across and within regions, even when the marginal effects are very small, point to the importance of considering context heterogeneity and the need to have both location and culture specific participant targeting strategies. Qualitative methods are fundamental in grasping context heterogeneity and developing tailored strategies, hence the importance of the integrated synthesis of quantitative and qualitative findings that follows.

7.3. Integrated synthesis of key quantitative and qualitative findings

This section integrates findings from the quantitative analysis presented in the previous section with the two main themes resulting from the thematic analysis of primary qualitative data from interviews with farmers and PCs on selection processes: the farmer-PC relationship and the farmers ability and/or willingness to adopt the standards.

7.3.1. The farmer-PC relationship

The farmer-PC relationship is key in determining selection in programmes with selling conditionality,[54] like the Touton-PBC programme. This is because in these cases PCs tend to automatically enrol in the programme the farmers that are already supplying them with cocoa. This means that in programmes with selling conditionality, participant selection actually occurs the moment farmers decide to sell their produce to a certain PC, a decision which is often taken prior to, and regardless of, the SSC programme.

[54] The reader is reminded that selling conditionality refers to programmes where participants are requested to sell their certified production to a specific PC/LBC associated with the programme (see also section 2.5).

There are two factors that appear to determine this relationship: the provision of credit and the fairness in the commercial relations.

7.3.1.1.Provision of credit

Provision of credit emerged as a key factor in shaping the PC-farmer relationship, and by consequence, farmers' selection in SSC programmes with selling conditionality. Access to credit is a crucial aspect of farmers' financial stability in general (e.g. Adebayo and Adeola, 2017) and that applies to Ghanaian cocoa farmers as well .According to the GCFS dataset, 54% of the surveyed farmers have made use of credit at least once (row 12, Appendix 19). This appears to apply to all farmers regardless of certification status as the relevant variable is found to be statistically insignificant (see t-tests in Table 15, row 12, and probit estimates in Appendix 24, row 5). All interviewed farmers reported turning to their PCs for credit in exchange of future harvest. Additionally, it was frequently reported that credit was the the first, and often only, reason for selling cocoa to a certain PC. It was also often stated that farmers initiated their commercial relationship with a PC after a loan they received when in need of cash. After that, farmers continued selling their cocoa to the same PC, often resulting in commercial relationships that spanned one or more decades. The following quote is characteristic of how the PCs operate as loan providers:

"If you take seven bags of cocoa as a loan from a PC, you cannot just give back seven bags. You need to double it, say fourteen bags. And then until you finish giving cocoa to the PC you borrowed from, you cannot give to another PC. So the PC is not charging any interest, he's just expecting from you that you're going to bring him more cocoa." (Solomon, farm owner).

Solomon's quote indicates that loans provided by PCs are interest-free (at least in the area around the research community) and are usually given for the corresponding value of one or multiple cocoa bags. The extract also asserts that even though PCs do not have direct financial gains from the loans in the form of interests, they do get commercial benefits. By providing loans in exchange of future harvest, PCs 'lock-in' farmers in dealing exclusively with them and hence ensure their future cocoa purchases, and by

consequence the commission they earn on purchased cocoa. Additionally, farmers who borrow from PCs are expected to provide more bags in return than the equivalent of the loan given. According to interviews with PCs, these loans are financed exclusively by their private capital, without any financial involvement of the LBCs. This means that PCs assume the whole risk of the loans they provide. The related risk, however, tends to be relatively low. This is because PCs live in the same community with the farmers, in most cases they are neighbours, friends or even relatives, and know the production capacity of each farmer. This allows them to better judge the risks involved in every loan case. Commercial loyalty and long lasting relations also play a role in keeping the default risk low. In fact, interviewed PCs and farmers have all asserted that default rates were very low, with most farmers re paying their loans (in cocoa bags) during harvest time, while cases of farmers carrying their debt from one season to another were extremely rare.

This credit system results in a win-win situation which advances the interests of both farmers and PCs. Given the lack of formal financial institutions that can provide credit to farmers (Dzadze et al., 2012) and the prohibitive costs of informal loans provided by rural money lenders in the Ghanaian rural context, loans provided by PCs are often the only viable source of cash for farmers when in need. It is a sort of pre-payment service to cover everyday needs or emergencies, such as school fees, house repairs, medical expenses or funeral costs. By providing interest-free credit at any time farmers need it, PCs become farmers' financial safety net, an essential piece in their economic stability and a far better alternative to local money lenders charging between 50% and 100% of interest on a loan. On the other hand, the provision of loans is one of the few mechanisms PCs have to attract farmers, since prices are regulated by the state and cannot serve as a basis for market competition (see section 2.3.). PCs know that a farmer in need of cash will divert the cocoa to which ever PC is able to provide a loan. In fact, farmers tend to diversify their selling channel as a strategy of financial stability. The following quote illustrates this point:

“Sometimes when you need help, the PC might not be able to help you. So there is a need to have more PCs, two or three. Because when you need help, if this one cannot help you go to the other person”. (Solomon, farm owner)

The extract indicates that Solomon, a relatively wealthy farmer and owner of a large cocoa farm, is aware of the importance of securing and maintaining multiple credit sources. His comment shows that diversifying the selling channel is a crucial strategy for enhancing farmers’ ability to deal with financial shocks. This finding is supported by the GCFS dataset. As the descriptive statistics show, it is common for farmers, whether certified or not, to sell their harvest to more than one buyer (row 14, Appendix 19). Further, when examined by certification status, both t-tests and probit analysis suggest that certified farmers are even more likely to use several buyers within the same cocoa season than non-certified (row 14, Tables 15 and row 8, Table 16). This also suggests that the risk of losing market share is real and PCs will usually go the extra mile to provide credit to a farmer from their supplying base. This is why PC-farmer relationships tend to be solid and long lasting, built on reciprocal trust: farmers trust that they can rely on their PC for cash in times of hardship, while PCs trust that farmers will not default on their loans.

The implications for participant selection into SSC programmes are the following. First, the predisposition of a PC to provide credit to a certain farmer clearly influences the farmer’s decision to supply this PC with cocoa in return. In the case in which the PC happens to be the ‘gatekeeper’ of a SSC programme with selling conditionality, then the PC’s ability or willingness to provide credit will also shape farmers’ selection into the programme. This also applies the other way around, as the lack of predisposition (or capacity) of PCs to provide credit will discourage farmers from selling their cocoa to them. If such PCs are involved in SSC programmes, this will result in farmers self-selecting themselves out of the programme.

The Touton-PBC programme illustrates how farmers can be discouraged from selling to a certain PC by the lack of credit provision and therefore also self-select themselves out of a SSC programme. In this case, Ebenezer, the PC of PBC at the research community was notorious for being extremely strict and selective in his credit provision to farmers.

According to farmers' testimonies, Ebenezer had openly informed the farmers of the certified group that he did not intend to give out any loans. This had the effect of discouraging farmers who depend on credit from joining the programme: "Anything can happen, I want to be able to ask for a loan", Lisa (tenant farmer) commented on her decision to distance herself from PBC and its SSC programme. This resulted in Lisa becoming a 'ghost' member of the certified group, i.e. although Lisa was officially registered as a member of the group because she was selling cocoa from a family farm to PBC, she did not engage with the programme activities. Other farmers also noted that they were discouraged from selling to PBC, and hence participating in its SSC programme, due to the lack of access to credit. For instance, Kojo commented that he used to sell his cocoa to PBC because he was on good terms with Ebenezer. Nevertheless, he stopped because it was very difficult to get loans from him, and he transferred to another PC on whom he could rely for loans when needed. Kojo developed a very close relationship with his new PC and he would even allow him during the high season to keep his cocoa money so that he could use it up for loans during the low season (i.e. as a sort of saving/credit account), confirming the role of PCs as local bankers. Among the ten interviewed farmers who had commercial relations with PBC and therefore were affiliated to its SSC programme, only two were able to get loans from its PC. Not coincidentally, both were male, senior members of the community, with relatively large production volumes and a long lasting relationship with Ebenezer.

The above case highlights how farmers lacking the social and economic capitals that would allow them to get loans from the PC of the SSC programme would rather self-select themselves out of the programme, instead of supplying with cocoa a PC without guarantees of access to credit. Further the case of the Touton-PBC programme suggests that more credit-dependent farmers, like Lisa or Kojo, are more likely to be left out of SSC programmes with selling conditionality than those who can afford dealing with a PC who does not provide credit. Overall, it is observed that selection processes are bidirectional. While PCs can externally influence participant selection by providing (or not) credit, farmers can self- select themselves in or out of SSC programmes based on their ability to access credit. This process is driven by both observable (e.g. cocoa

production that can serve as collateral to loans) and unobservable (e.g. degree of trust in the farmer-PC relationship) farmer characteristics.

Second, there is a sharp contrast between the expectations of SSC implementing actors regarding farmers' commercial loyalty discussed in section 5.3.2 and farmers' need to diversify their selling channel in order to increase their sources of credit and hence safeguard their financial stability. This means that a tension emerges between the interest of implementing and trading actors (mainly LBCs) to prioritise the participation of commercially 'loyal' farmers in SSC programme with selling conditionality, and farmers' interest to maintain multiple selling channels. For instance, side-selling of certified produce is often consider as a non-compliance with the standards that can lead to the suspension or even exclusion of the farmer from the programme. In these cases, this could lead to more credit-dependent farmers who need to diversify more their selling channels being left out of SSC programmes.

Third, the importance of credit in the PC-farmer relationship also indicates that certification related incentives, such as training, price premium, and other material inputs (e.g. fertilisers boots, cutlasses), are not sufficient per se to incentivise the participation of farmers if credit provisions are not in place. While farmers obviously find such incentives attractive, they will not risk losing their source of credit by diverting their produce to the PC of the SSC programme in order to become certified. This can lead to situations where farmers register with a SSC programme and follow the training, but keep selling their produce to their PC of choice, in order to maintain their source of credit, even if this means losing the certification premium.

7.3.1.2.Fairness in the commercial relationship

Beyond the provision of credit, farmers also reported valuing fairness in their relationship with the PC. This was mainly reflected in the accuracy of the PC's scale when weighting and buying cocoa. Scale manipulations are commonly reported in local commodity markets (e.g Milford, 2012). They also appear to be frequent in the Ghanaian cocoa market, as PCs, not able to alter the state-fixed cocoa price, manipulate

the scale in order to increase their gains. Farmers commented on this practice during interviews:

"The PCs are killing [us] with the scale. Some of them are very cruel. They can adjust the scale to the extent that you have to add 10 kgs. Sometimes you know that the weight of the cocoa is one bag, but it never reaches the [64 kg in the] scale.[55][…] If they are adding 10 kgs to each bag and you're giving them 10 bags that's a 100 kgs gain. That's not small money". (Moses, sharecropper with land entitlements)

Once more, the Touton-PBC programme illustrates how the issue of scale can influence farmers' self-selection in programmes with selling conditionality. In this case, Ebenezer, the PC of the programme, despite being known for his lack of predisposition to provide loans as discussed in the previous section, was also widely recognised in the community for his 'fair scale'. Interviewed farmers often associated the fact that Ebenezer had the 'best scale' in the area to the fact that he was buying cocoa for PBC, the LBC previously owner by the government, as it was common belief that PBC PCs and their scales were still being better controlled and monitored than others.[56] This research has identified three farmers who were selling their produce to Ebenezer, because of his 'fair scale', despite the fact that this commercial choice was leaving them without credit. This means that the 'fairness' in the commercial relationship with Ebenezer attracted some farmers to PBC and as a result also influenced self-selection into its SSC programme.

Nevertheless, more credit-depended farmers could not afford forgoing their credit sources in order to sell to PBC, even if that meant a better deal in the scale. One selling strategy, once more, was diversification of the selling channel. By selling part of his cocoa to PBC and part to another PC, Owusu was trying to maintain his credit source while receiving a fair price for at least part of his produce:

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[55] In the Ghanaian trading system one bag of cocoa equals 64 kg.

[56] The LBC PBC, previously the cocoa buying subsidiary of Cocobod, was privatised in 1993 as part of the market liberalisation reform, nevertheless many farmers still regard the LBC as a government-owned company (see section 2.5)

“PBC is from the government, they do not give loans. But the weighting is better, one bag is fair. The other PC, I need him to settle my bills, to pay the school fees.” (Owusu, farm owner).

Another strategy, though probably available only to farmers with large cocoa volumes, was for farmers to have their own scale. This was the case of Solomon, whose cocoa production exceeded the 80 bags per season. Solomon had his own scale to weigh his cocoa and was selling to three different PCs. Each one of them would go to his farm to pick up the cocoa from his farm and weigh it on the spot using his scale. This allowed Solomon to maintain his credit sources while getting the correct weight (and pay) for his cocoa. Nevertheless, most farmers could not afford either of these strategies. Particularly farmers with lower production volumes that do not permit selling to multiple PCs, and/or more credit-dependent farmers tended to just skip selling to PBC and tolerate scale manipulations in order to secure their credit sources. This also meant that these same farmers were less likely to participate in the Touton-PBC SSC programme, suggesting a positive selection of the already better off farmers, i.e. those with larger production volumes, greater financial stability and less dependence on credit. Such features point once more to the importance of the economic and social capitals of farmers and to the fact that participant selection can be driven by farmer characteristics which are both observable (e.g. greater production capacity) and unobservable (e.g. ability to use social networks to access credit).

7.3.2.Ability and/or willingness to adopt the standards

Farmers’ ability and/or willingness to adopt the standards is another key determinant of participant selection into SSC programmes. Particularly in cases of programmes without selling conditionality where the PC-farmer relationship is no longer relevant, selection into certification appears to be mainly determined by factors that influence farmers’ ability and willingness to adopt the standards, namely the ability to bear the costs of certified production and farmers’ attitudes towards farming.

7.3.2.1.Labour costs of certified production

Producing cocoa according to sustainability standards may increase the farming workload, as farmers are expected to prune and weed their farms on a more regular basis, while also taking more systematic care of mistletoe, as discussed in section 1.2. This means that if the farmer is not able to draw on extra household labour, farming according to standards may lead to an increase in the use of sharecropping or hired labour. In any case, increased labour costs of certified production may act as a barrier to participation for farmers who cannot afford to invest in extra labour.

The scenario that certified farmers make greater use of household or sharecropping labour is not supported by the GCFS dataset, as the corresponding variables are either statistically non- significant, or significant but with low marginal effects (see row 4, Table 15 and row 3, Appendix 24). This could be explained by a lack of proper enforcement of the standards, something which was often hinted by certification consultants who worked with Kuapa Kokoo. If this is the case, it would mean that, although certified in theory, Kuapa Kokoo farmers did not really adopt and apply the Fairtrade standards, and therefore there was no real need to increase their labour input. However, it could also mean that the adoption does not significantly increase farmers' workload after all and therefore it is not a barrier to the adoption of standards.

Farmer-level data diverge on whether adopting the standards actually leads to an increased farm workload and by consequence to an increase in the use of hired or household labour. Anita and Nora, for instance, categorically stated that their workload is the same after adopting the Fairtrade standards and that they do not need to hire extra labour. The only difference from following the standards, they noted, is that their farm production has increased. However, it is worth noting that both farmers were working on abunu contracts and the part of the trees that were already bearing fruits, where they could apply the standards, was relatively small (i.e. below 5 hectares). Lisa, working on a one hectare family farm, agreed with this view noting that farming according to the standards hasn't really increased her workload. "These are things we were doing already. It's just that we were not doing it at the right time and in the right way", she

noted. Adopting the standards, therefore, signified for Lisa a re-organisation, but not an increase, in the farm workload. Finally, Ama who together with her husband farms about 12 hectares, commented that the increase in workload applies mainly in the initial phase of the adoption of the standards. Nevertheless, as one keeps maintaining the farm according to the standards, the work stabilises at some point and at the end the extra workload is not significant:

“It was more work, initially. So once you think it’s too much and you can’t do it, you hire labour. But right now the farm has stabilised and now the cocoa is doing fine. So we don’t get to hire a lot of labour like when we were initially applying all the training.” (Ama, farm owner's wife).

Nevertheless, other farmers asserted that certification lead to an increase in the labour input, which, however, was being covered by the increase in yields from applying the standards. Kwame, the owner of a 2 hectares farm and a sharecropper for another 9 hectares, recognised that applying the standards significantly increased his workload which lead to an increased used of hired labour. The extra labour cost was covered by the increase in productivity: “At first I wouldn’t even get 10 bags from my farm and now I’m able to get 25”. Constance, a PC in the case study community with more than 7 hectares and two sharecroppers taking care of half of her land, also confirmed that since adopting the standards she needs to hire extra labour: “The sharecropper alone cannot do all the work. You have to hire extra labour, but then it pays off”.

Such testimonies suggest that particularly for farmers managing more hectares, whether as owners or sharecroppers, the increase in the farming workload can be significant. This could explain why according to the GCFS dataset, every additional hectare of farming appears to decrease the likelihood of a farmers being certified (row 1, Table 16). This implies that the adoption of standards can be problematic for farmers lacking the initial capacity to increase their labour input (whether drawing on household labour, or by increasing the use of hired labour), even if the investment pays off at harvest time. If this is the case, it proves once more that pre-harvest credit provisions are crucial for the adoption of standards and therefore for farmers’ self-selection into SSC programmes. Overall, observable characteristics related to farmers’ economic capital

(e.g. production volumes and access to credit) and unobservables ones linked to their social capital (ability to draw on unpaid labour of friends and relatives, as discussed in section 6.3.3.) appear to influence farmers' ability to afford extra labour and thus to adopt the standards.

7.3.2.2.Farming attitudes

SSC programme implementing actors tend to prioritise those farmers who are able and willing to see cocoa farming as a business, as discussed in section 5.3.5 . This did not emerged as a theme in the thematic analysis based on farmers' insights. Nevertheless, there are some observable variables included in the GCFS dataset that can be associated to a 'business' approach to cocoa farming. Such variables include savings for farm investments and the possession of farm equipment, as well as the existence of non-cocoa income that can be regarded as a strategy of livelihood diversification, which can be considered as the opposite strategy of cocoa farming intensification. Results from the probit model suggest that such 'business' related farmer characteristics are indeed positively related to selection into the Fairtrade certified LBC Kuapa Kokoo. The possession of farm equipment, for instance, appears to increase the likelihood of a farmer being certified across and within regions (row 6, Table 16). The existence of non-cocoa income, on the other hand, appears to decreases the same likelihood across regions and within the Ashanti region sub-sample (row5, Table 16), suggesting that farmers who diversify more their sources of income are less likely to become certified. Savings for farming investments is the only variable that does not support this scenario, as it appears to have no significant influence on the certification status at the full sample, while it is negatively associated with the probability of being certified for the Ashanti region sub-sample (row 7, Table 16). Overall, however, the probit results appear to support the view expressed by implementing actors that SSC programmes have a preference for farmers with a business attitude towards cocoa farming.

Finally, farmer unobservable characteristics such as trust in SSC implementing actors and programme structures, as well as willingness to work closely with others, can also influence selection into SSC programmes. The case of Felix, a 62 year old farmer who

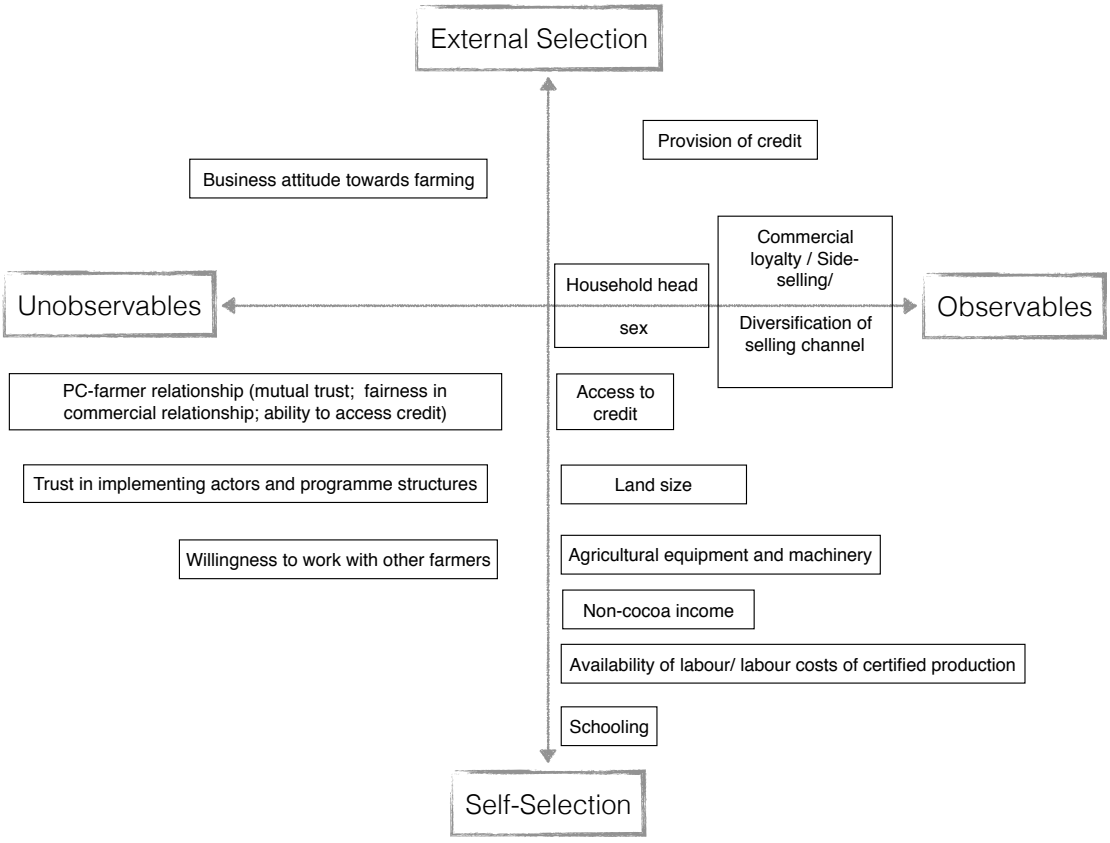
was managing a family farm, illustrates this point. Felix was one of the few farmers with land entitlements identified by this research, who was not associated to any of the two certified groups operating in the case study community. He explained his decision to self-select himself out of both programmes as a result of his dislike towards attending group meetings and having to work closely with others. Patrick, on the other hand, a 33 year old farmer sharecropping on his relatives' land, joined the Cocoa Life group with his abusa farm. Nevertheless, he soon dropped out, as he believed that the group was managed by a number of elite farmers with family links to each other, who were benefiting disproportionally from the programme (i.e. unfair distribution of premium and privileged use of the services of the Cocoa Life extentionist). This undermined his trust in the group and made him self-select out of the certified group.

7.6.Conclusion

The aim of this chapter was to unpack participant selection processes into SSC programmes in order to understand which farmers are more likely to participate in, and therefore possibly benefit from, SSC interventions and why. The chapter started by providing an overview of the main quantitative findings. The following variables were found to be statistically significant in determining membership in the Fairtrade cooperative/LBC Kuapa Kokoo: cocoa farming hectares, household labour contribution, having a male headed household as well as having savings and income from non-cocoa sources were all found to decrease the likelihood of being Fairtrade certified across or within regions. It was noted, however, that the marginal effects for farming area and household labour were particularly small, indicating a limited influence on the membership likelihood. On the other hand, years of schooling, possession of farming equipment and the number of buyers used by a farmer within the same season were found to be statistically significant with a positive influence on the membership likelihood. Particularly the last two (i.e. having a tree felling machine and the diversification of the selling channel), were the only variables which had a consistent effect on the membership likelihood with a marginal effect of considerable size across and within regions.

The discussion then moved to the integration of these results with key qualitative findings from the thematic analysis. Results indicate that there are two main venues through which participant selection processes operate. First, the choice of the selling channel, which applies only to SSC programmes with selling conditionality. It was discussed that loans provided by PCs are highly valued by farmers since they are crucial for their financial stability. As a result, the provision of such loans (or the lack of it) influences farmers' choice of PC and therefore their selection in or out of SSC programmes with selling conditionality. The provision of loans itself can be determined by farmers' observable and unobservable characteristics linked to their economic and social capitals (e.g. production capacity and social networks that can provide alternative sources of credit). Second, the ability and willingness of farmers to adopt the standards, which is broken down to two main factors: farmers' ability to afford a possible increase in production costs linked to certified production and their attitudes towards farming. In terms of production costs, integrated findings suggest that farmers handling more farming hectares are more likely to need extra labour in order to comply with the standards. Ability to draw on extra labour once more depends on farmers' economic and social capitals and on characteristics that can be both observable and unobservable, such as economic resources to hire extra labour, or reliance on relatives and friends to source unpaid labour. In terms of attitudes, quantitative data support insights from interviews with implementing and certifying actors presented in section 5.3.5. and suggest that farmers with observable characteristics that can be linked to a greater cocoa farming intensification, such as less non-cocoa income and possession of tree fell equipment, are more likely to become certified. Finally, farmers whose trust in the certified group is undermined, or who lack willingness to work closely with other farmers, tend to self-select themselves out of SSC interventions. Figure 20 summarises the participant selection determinants identified by this research in terms of observable and unobservable characteristics, as well as depending on whether they influence external selection, self-selection or both.

Figure 20: Participant selection determinants



Source: Author's creation

The main implications of the above findings can be summarised as follows. First, selection processes which are determined by the PC-farmer relationship based on the provision of credit are likely to prioritise farmers who are already financially more stable and therefore less likely to default on their loans, or are directly less credit-dependent. This means that farmers with higher social status and/or larger cocoa volumes that allow them to provide greater repayment guarantees to the PCs, or to diversify more their selling channels and therefore their sources of credit are more likely to join SSC programmes with selling conditionality. On the contrary, more credit-dependent farmers, or those who are less able to diversify their selling channels (due to smaller production volumes) are more limited in their selling choices and therefore more likely to prioritise access to credit against participation in a SSC programme if presented with the dilemma. Additionally, farmers who are already more business-oriented, and with a greater ability to make the necessary investments in farming equipment and labour input in order to adopt and comply with the standards are more

likely to be externally selected or to self-select themselves into SSC programmes. Findings also suggest that if SSC programmes are to be more inclusive, then the provision of accessible, low-cost credit or pre-financing services must be part of their programme design. This would allow farmers who are less able to adopt a more business oriented and intensified type of cocoa farming, as the one promoted by SSC programmes, to overcome financial barriers that could be stopping them from participating in certified markets. This chapter has addressed the third research sub-question. The following chapter reviews the main findings of the three analytical chapters and reflects on key methodological and policy issues. Some recommendations for future research are also provided.

8. Conclusion

8.1. Study summary

This thesis sought to contribute to the broader debate on the effectiveness of SSC for agricultural production by focusing on the so far under-researched aspect of selection processes. Using the Ghanaian cocoa sector as a case study and drawing on primary qualitative and secondary survey data, I provide new insights on how SSC programme placement is determined (RQ1), how farmers involved in cocoa production become eligible to participate in such programmes (RQ2), and finally how these eligible farmers select in or out of certified groups. Selection processes were investigated in three different cocoa SSC programmes operating in the Ghanaian context: the Fairtrade certified cooperative/LBC Kuapa Kokoo, the previously Faitrade certified and now verified Cocoa Life programme,[57] and the UTZ certified Touton-PBC programme. Combined findings suggest that selection processes are systematic with the already better off farmers being more likely to participate and therefore potentially benefit from SSC programmes. The thesis also contributes to the impact evaluation literature by pointing to the importance of unpacking selection processes in order to understand not only whether an intervention works, but also for whom it may or may not work.

This chapter begins with a summary of the key arguments of each of the chapters, focusing on contributions made both to the SSC and impact evaluation scholarship (section 8.2.). It then turns to the main implications resulting from the research findings (section 8.3.) and concludes with some reflections and recommendations for future research (section 8.4).

[57] The reader is reminded that since 2015 the Cocoa Life programme is verified and not certified by Fairtrade (see section 2.5. for more)

8.2.Key arguments and contributions to the existing literature

Chapter 1 presented the research rationale. It was argued that given the rise in cocoa SSC programmes amid fears of supply shortages and consumers' social and environmental concerns (Lernoud et al.., 2017; Potts et al. 2014; Vecchio and Annunciate, 2015; Fountain and Hütz-Adams, 2015 & 2018), gaining a better understanding of who can participate in certified markets, and just as importantly who cannot, becomes necessary. The chapter then introduced the reader to the broader SSC literature and the current debates on their effectiveness, highlighting that the processes by which farmers enter SSC initiatives so far have been rather under-researched. Based on these reflections on the state of the literature, three sub-questions were specified regarding programme placement, eligibility criteria and participant selection processes.

Chapter 2 introduced the contextual background of the research. It reviewed the power relations within the cocoa-chocolate global economy and pointed to the consolidation of cocoa processing and manufacturing companies on the one hand, and the fragmentation and debilitation of the cocoa farming base on the other (Kaplinsky, 2004; Fold, 2002; Ryan, 2011; Barrientos, 2014). It was argued that the observed increase in the demand and production of 'sustainably sourced' certified cocoa should be understood in this context. The discussion then introduced the reader to the particular historical and institutional context of the Ghanaian cocoa economy and its current operational structure. It was underlined how an originally farmer-driven industry has been, and partly still is, heavily controlled by the state through COCOBOD (Hill, 1963, Berry, 1993; Kolavalli and Vigneri, 2011 & 2017). Emphasis was placed on the contractual agreements 'abunu' and 'abusa' which were fundamental to the development of the sector (Robertson, 1980 & 1987; Knudsen and Fold, 2011; Takane, 2002) and are key in following the discussion on eligibility and participant selection processes presented in chapters 6 and 7. Finally the chapter presented the three SSC programmes investigated by this study and summarised key characteristics which can allow the reader to engage with the analytical chapters.

Chapter 3 and 4 provided the conceptual framework and methodology of the study. Chapter 3 began by reviewing the debate on the concepts of intervention, programme and project. Drawing on Long's actor oriented approach (Long and van Der Ploeg, 1989; Long, 1999; Long, 2001) and ANT (Callon, 1986; Latour, 1987; Law, 1992) this thesis characterised SSC interventions as an active and on-going process driven by the interests of the different actors involved. The discussion then moved to the concept of selection to argue that there is value in considering selection not only as a source of bias (Heckman, 1979; Rosenzweig and Wolpin, 1986; Ravallion, 2001) but also as a source of learning which can inform for whom a programme may or may not work (Weiss, 1997; Pawson and Tilley, 2004). Given the lack of a 'selection' theory that could guide the analysis, the study used the SRL framework (Scoones, 1998) as an analytical tool and examined the role of different livelihood capitals in shaping farmers' ability to access, enrol and engage with SSC programmes. Chapter 4 started by detailing how the idea of exploring selection processes in certification initiatives was born and how motherhood shaped both the scope and the methods of the research. Further, it was detailed how quantitative and qualitative methods were mixed in order to triangulate, to complement findings, to develop analytical models and to explain contradictory findings. After detailing the data collection and analysis methods, the chapter finished with the methodological challenges encountered and the research limitations. It discussed the difficulties in obtaining secondary data from commercial actors, the reliability of primary and secondary data as well as issues of selection bias resulting from non-random sampling.

Chapters 5, 6 and 7 presented the empirical findings resulting from both quantitative and qualitative analytical methods. Findings suggest that programme placement is driven by business-oriented criteria when placement decisions are shaped by the interests of SSC implementing actors which are mainly concerned with minimising implementation costs and risks and maximising returns. Such logics result in the placement of SSC programmes in areas with greater production capacity and better accessibility, where farmers tend to be better prepared to adopt and comply with the standards. The main implication is that, contrary to the expressed aims of SSC, more remote areas with smaller production volumes, and 'higher-risk' farmers in terms of

standards adoption and compliance are likely to be avoided. Such findings echo authors who have argued that SSC tend to operate in "low hanging fruits" areas with already organised farmers who can act as reliable suppliers in terms of volumes and crop quality(Fountain and Hutz-Adam, 2015:7; Pongratz-Chander 2007; Kariuki, 2014; Beall, 2012). On the other hand, farmer-oriented placement criteria appear to prevail when placement decisions are taken by funding and certifying actors who regard SSC programmes as vehicles of their institutional mission or CSR strategy. In these cases areas that face specific social and/or environmental challenges, such as child labour, extreme rural poverty or threats to natural resources may be specifically targeted.

In terms of eligibility, findings suggest that land entitlements operate as a cut off point in qualifying for membership in SSC programmes, as reported also by Sutton (2014), Ingram et al. (2014) and Nelson et al. (2013). Non-eligible farmers tend to be the most marginalised or disadvantaged farmers, such as migrant sharecroppers from poorer areas with less formal education, less established social networks in the cocoa growing areas and fewer financial resources. These farmers typically need to go through several years of unpaid work and secure extra labour, mainly through marriage, in order to access land first as sharecroppers and later as tenants of 'abunu' farms. As a result, they are not able to reach SSC eligibility status until their mid-thirties or forties. On the contrary, farmers who had a more advantaged start in life and had either direct access to land for cocoa farming or were better equipped in terms of human, social and economic capital are more likely to be considered as eligible for SSC membership earlier in life.

Finally, findings related to participant selection indicate the importance of both observable and unobservable farmer characteristics related to farmers' economic and social capitals. The provision of pre-harvest loans and the fairness in farmer-PC relations emerged as key participant selection factors, since they determine farmers' choice of PC and therefore their selection in or out of SSC programmes with selling conditionality. Ability and willingness to adopt the standards was identified as second key factor influencing participant selection. This was broken down into ability to afford possible increases in labour requirements, as well as farming attitudes. Findings partly support Oya et al. (2017) on the ability to afford increased certification costs as

participant selection determinant. Prominent observable determinants highlighted in section 1.3 such as land size or education are not supported by this analysis. Results point, however, to the importance of less documented unobservable characteristics in determining participant selection. The role of personal relations between farmers and local buyers has been thoroughly documented in section 7.5.1. Propensity to work closely with other farmers and trust in the leadership of the POs may also play a significant role in participant selection as the two cases presented in section 7.5.2.2 illustrate. Although the relevant evidence is limited, these potentially influential unobservable selection determinants are being flagged here for further exploration.

Overall, findings suggest that farmers in remote areas with smaller production volumes, lacking land entitlements and facing greater financial uncertainty and credit dependence, or with limited capacity to increase their labour input, are likely to be systematically excluded from SSC programmes. Such findings converge with studies that have previously pointed towards a positive selection of the already better off into SSC initiates, while leaving behind the poorer and more marginalised (e.g. Cramer et al., 2014 & 2017; Breimer and de Vaal, 2012; Hansen and Trifkovic, 2013; Staricco and Ponte, 2015; Carimentrand and Ballet, 2010; Staib, 2012).

8.3.Policy implications

The following policy implications arise from the above outlined findings. In terms of placement, the use of business oriented criteria may lead to the creation of certification "hotspots" and an over-concentration of SSC programmes in areas that are considered optimal by SSC implementing actors (see section 5.3.1). This can lead to the multi-certification of the same farmers, as SSC programmes concentrate in the same 'optimal' areas, while farmers in less attractive areas in operational terms may never have access to certified markets. This is less likely to occur when SSC programmes follow more farmer or community- oriented placement criteria, where the specific socio-economic and environmental challenges may in fact attract and not discourage certification initiatives. Given the fact that SSC have crossed into the mainstream and are becoming increasingly implemented by market actors who take placement decisions following

business criteria (Paschall, 2013), scenarios of future over-concentration of certification in 'optimal' areas and systematic exclusion of areas where farmers are smaller, and less prepared to adopt the standards and intensify their production become more likely. This scenario points to the risk of increasing local inequalities among cocoa farmers, where the poorer and more marginalised farmers are systematically out of the sector's sustainability initiatives.

Regarding eligibility criteria, there are two main implications. First, farmers with no land entitlements producing certified cocoa, such as sharecroppers and their wives, are unlikely to follow the training on certification standards or to receive the certification related benefits. Instead these tend to accrue to farm owners, even if these are 'absentee' farmers, already disengaged to a great extent with the cocoa farming work (see section 6.4). Moreover, this study has identified 'ghost farmers' (see section 6.3.2), who despite being registered as members of certified groups, in reality are not engaged in any way with certification related activities. Such findings indicate a mismatch between those who actually produce the certified crop (i.e. tenant and sharecropper farmers along with their wives), those who are officially registered as certified (i.e. farm overseers) and those who finally receive the benefits (at least the financial premium), who tend to be the farm-owners, even if no longer actively farming. Concerns arise regarding the ethics of such practices (i.e. is it fair or socially sustainable that SSC initiates tend to benefit the already better off producers?), but also the effectiveness of SSC programmes (i.e. is selecting the farm owners, even if already disengaged with farming advancing the aims of SSC programmes?). Finally, SSC efforts to intensify production should also be re-examined in terms of their social impact. For example, the case of Aisha who was required to relocate with her children to a remote settlement with no schooling facilities in order to produce certified cocoa clearly indicates that there is a gap between the values that consumers associate with certified products and the practice of certified production (see section 6.4.4). Overall, it becomes clear that if SSC are to bring real change in farming practices, they need to recognise, include and properly incentivise the farmers that although involved in certified production have been so far rather "invisible" to both implementing and certifying actors, such as sharecroppers and their wives.

Second, using land ownership or entitlements as the main eligibility criteria is likely to target farmers who are already preparing to exit the cocoa farming sector (see section 6.4.1). Although this exit process can take several years, even decades, it is worth reflecting on how effective it is for SSC programmes which aim at changing farming attitudes and behaviour to target middle-aged farmers who are already planning to exit the sector, leaving their farms in the care of, typically non-eligible, sharecroppers. Given the industry concerns that both cocoa farms and the farming population of Ghana (and West Africa more broadly) are "ageing" and will not be able to cope with a future demand for more and better quality cocoa, SSC funding and implementing actors should consider how they could include in their programmes the young people that are already involved in cocoa production. Because against the common belief that young people are deserting the sector (e.g Fick, 2015; Löwe, 2017; Fountain and Hütz-Adams, 2015), there is great number of young people currently farming cocoa, but their lack of land entitlements rends them invisible to policy makers, aid practitioners, and cocoa industry professionals.

Finally, in terms of participant selection, one of the key lessons emerging is that pre-harvest credit can be crucial for standards adoption for programmes with and without selling conditionality. This is because it can allow farmers who are locked in trading relationships with certain PCs on the basis of loan provisions, and/or those less able to afford the increased labour costs, to overcome the financial barriers that could be stopping them from participating in certified markets. Inclusion of pre-harvest credit would also significantly minimise the side-selling of certified produce, a widespread practice and one that causes SSC implementing actors, particularly LBCs, a considerable headache, as it results in losses of volumes of certified beans.

8.4.Reflections and recommendations

This thesis has shown the importance of exploring selection process of participants into social and economic programmes. To do so, it has drawn conceptually on ANT but also on Scoones' (1998) SRL framework. The first was particularly helpful for the analysis of the programme placement determinants presented in chapter 5, as it has enabled

mapping the different actors involved in cocoa SSC programmes and analysing how certification can advance their multiple material and political interests. This conceptual approach, however, proved difficult to apply when exploring eligibility dynamics and participant selection processes at the farmer level (chapters 6 and 7). Instead, Scoone's SRL framework was used to visualise how different livelihood capitals can enhance or hinder both participant eligibility and selection. This does not mean that actor approaches cannot contribute to a better understanding of these issues. On the contrary, they have the potential to illuminate the local political structures and their influence, in this case the role of the members of the cooperative board or of other institutions and committees operating at the community level. Nevertheless, grasping the dynamics of local interests would require a more ethnographic methodological approach, involving extensive fieldwork and data collection through observation, as well as informal, unstructured interviews to enable farmers opening up to an outsider about sensitive issues, such as the use of SSC related resources to the benefit of only few individuals. It is characteristic that such dynamics started to become visible towards the end of the fieldwork in the research community. At that point, for example, it became possible to observe the kinship relations among the members of the Cocoa Life group and how these were driving away other farmers from joining the group. At the same time, the increasing degree of familiarity between researcher and researched allowed the disclosure of comments on the different ways that board members and PCs involved in both the Cocoa Life and the Touton-PBC programmes were benefiting from their positions, shaping eligibility perceptions and participant selection while advancing their own interests. Nevertheless, these last-minute observations were not deemed enough to construct the analysis on eligibility and participant selection using the ANT framework.

The analysis drew instead on the structured and life history interviews conducted with the farmers, as well as on focus groups. Although these were not able to reveal the dynamics of local interests, they provided important insights on the role of livelihood capitals in shaping farmers' trajectories, as well as selection processes into SSC programmes. Life histories in particular proved to be an extremely rich source of data which also allowed triangulating and often correcting data collected during the shorter, structured interviews, as discussed in section 4.6.1.

This difference in the quality of data casts doubts on the reliability of the secondary survey data as well. Despite these quality concerns, however, it is concluded that the combination of quantitative and qualitative methods can be particularly useful in illuminating the so far under-explored aspect of selection processes into social and economic interventions. In this study mixed methods were used to overcome the lack of existing theory on selection processes, by creatively sequencing qualitative and quantitative data analysis (see section 4.3). Triangulation and complementarity were then used to verify convergent findings and to explain contradictory ones.

In retrospect, this research would have benefited from considering the entire network of labour and kinship relations surrounding a cocoa farm. This would mean collecting data from all the persons contributing labour to a single farm (i.e. farm owners, tenant farmers, sharecroppers, as well as all the wives working along their husbands or on their own account). By doing so, I could have gained a deeper understanding of the power relations revolving around cocoa production, as well as the dynamics of interests and their interplay with cocoa SSC programmes. Moreover, this thesis would also have benefited from a round of data collection during harvest time, when labour demand reach its peak and one can observe the full spectrum of people working on a single farm (e.g. relatives coming from the North, children taking a break from school to help their parents, or day labourers being hired to harvest cocoa). This is an extremely busy period for farmers and it can result challenging to conduct long interviews such as life histories. However, it is a fascinating time for observation and short, unstructured interviews as cocoa beans leave the farms, money is pouring in, and the community is buzzing with activity. Finally, this study would have benefited from sampling a greater number of farmers farming in more remote areas. This would have made the sample more representative by better capturing the part of cocoa producing population settled in the numerous Akuras around the research community and would have allowed further exploring the role of remoteness in the (self) selection of farmers in or out of development interventions.

In terms of recommendation for future research in SSC initiatives, the mounting evidence of positive selection processes of producers in combination with the increasing

use of SSC in globalised mainstream markets raises serious concerns regarding the implications of who can access, participate and really benefit from such initiatives. As highlighted above, issues of both ethics and effectiveness come into play and future research should pay attention to both. The occurring shift from aid to market driven SSC programmes and the plunge of certified products into the mainstream (Lernoud et al., 2017; Potts et al., 2014; Paschall, 2013; COSA, 2013) calls for a greater consideration of the implications of commercial actors taking over the implementation of SSC programmes from aid and other not for profit actors.

Moreover, this thesis has shown how the particular interests of the actors involved in SSC, the national institutional context, and even the personal characteristics of SSC programme gatekeepers, such as the propensity of a PC to assume financial risk and provide credit to farmers, shape the final outcome of who is in and who is out. Future research should therefore carefully consider the contextual factors at play in each specific case and consider certification as a "fluid term" rather than a "fixed idea" (Paschall, 2013:9). Overcoming the assumption that producers are a 'homogenous' group with the same resources, abilities, and interests becomes crucial in this respect. This thesis has shown that farmers involved in cocoa production may differ substantially in terms of livelihood capitals and ability to pursue different livelihood strategies. These characteristics also determine the degree to which they can access, participate and finally benefit from SSC programmes. Such findings resonate with the historical dynamics of accumulation of the sector shown by previous studies on Ghana's cocoa sector (e.g. Hill, 1963; Okali, 1983; Berry, 1993; Takane, 2002; Amanor, 2005) and discussed in section 2.4. Cocoa production has previously lead to varying degrees of land accumulation and wealth creation, with some farmers being able to significantly improve their socio-economic status, while others being "systematically excluded" from the profits resulting from cocoa commercialisation (Berry, 1993: 157-158). It should not be surprising, therefore, that the SSC programmes play into the same dynamics. This thesis has shown how certification related benefits tend to accrue to the farmers who already possess land and other livelihood capitals, even if not directly involved in cocoa farming (like the cases of absentee farmers receiving the certification premium indicate). For these reasons, focusing on the 'invisible' people contributing in certified

production, such as sharecroppers and their wives, should be a priority of future research into what certification can or cannot do and for whom. In this respect, the use of ANT (in combination with a more ethnographic approach) can be a powerful conceptual tool for disentangling the selection but also distributional dynamics of SSC programmes and grasping who is able to participate and benefit from certified markets and who is not.

Taking into consideration that farmers are a differentiated and diverse group is fundamental also for future research in the Ghanaian cocoa sector in particular. There is a large body of literature on Ghana's cocoa economy, nevertheless, very little work so far has focused on sharecroppers despite a widespread and fairly structured and established sharecropping system operating in the country for more than a century and involving both abunu and abusa arrangements (Okali, 1983; Robertson, 1987; Takane, 2002). As Kolavalli and Vigneri (2017) note, sharecroppers tend to be under-represented in survey data because they do not get interviewed as non-decision makers. Nevertheless, a research (and policy) focus on the decision makers, i.e. the land owners, conceals the role of a wide range of people who despite lacking land ownership or entitlements, contribute heavily in Ghana's cocoa production. Female and young farmers working on family or sharecropping farms are another example of 'invisible' farmers, both to research and policy, as are the wage workers employed on a daily and not permanent basis. Nevertheless, these people exist: they produce cocoa, are part of the cocoa growing communities, send cocoa remittances to their homelands for school fees and other investments. Omitting them from future studies implies failing to grasp an essential piece of the socio-economic and cultural mosaic that forms Ghana's cocoa industry.

Bibliography

Adato, M. (2007) *Combining survey and ethnographic methods to evaluate conditional cash transfer programs.* Toronto: Centre For International Studies. Available at:https://www.trentu.ca/ids/sites/trentu.ca.ids/files/documents/Q2_WP40_Adato.pdf (Accessed: 12 December 2018)

Adebayo, O.O. and Adeola, R.G. (2008) 'Sources and Uses of Agricultural Credit by Small Scale Farmers in Surulere Local Government Area of Oyo State', The Anthropologist, 10 (4), pp. 313-314.

Agro Eco (no date) Sustainable Cocoa. Agro Eco Louis Bolk Institute.

Akiyama, T., Baffes, J., Larson, D., F., Varangis, P. (2003) 'Commodity Market Reform in Africa: Some Recent Experience', *Economic Systems*, 27(1), pp. 83-115.

Amanor, K., S. (2005) 'Agricultural Markets in West Africa: Frontiers, Agribusiness and Social Differentiation', *IDS Bulletin*, 36(2), pp. 58-62.

Ampofo, D. (2017) *Why Does Ghana Need New Administrative Regions?* Available at: http://davidampofo.com/why-does-ghana-need-new-administrative-regions/ (Accessed: 12 December 2018).

Angeles, G., Guilkey, D.K., and Mroz, T.A. (1998) 'Purposive program placement and the estimation of family planning program effects in Tanzania', *Journal of the American Statistical Association*, 93(443), pp. 884-899.

Anyidoho, N., A., Leavy, J., Asenso-Okyere, K. (2012) 'Perceptions and aspirations: a case study of young people in Ghana's Cocoa Sector', *IDS Bulletin,* 43(6), .pp. 20-32.

Arce, A. (2009) 'Living in Times of Solidarity: Fair Trade and the Fractured Life Worlds of Guatemalan Coffee Farmers', *Journal of International Development*, 21, pp.1031-1041.

Armendáriz de Aghion, B. and Morduch, J. (2005) *The Economics of Microfinance*. Massachusetts: The MIT Press.

Asfaw, S., Mithöfer, D., Waibel, H. (2007) 'What Impact Are EU Supermarket Standards Having on Developing Countries Export of High-Value Horticultural Products? Evidence from Kenya', . *International Marketing and International Trade of Quality Food Products*, Bologna, Italy, 8-10, March. Hanover: University of Hanover.

Astbury, B. and Leeuw, F.L. (2010) 'Unpacking black boxes: mechanisms and theory building in evaluation', *American journal of evaluation*, *31*(3), pp.363-381.

Atkinson, R. and Flint, J. (2001) 'Accessing hidden and hard-to-reach populations: Snowball research strategies', *Social research update*, 33(1), pp.1-4.

Bacon, C. (2005) 'Confronting the coffee crisis: can fair trade, organic, and specialty coffees reduce small-scale farmer vulnerability in northern Nicaragua?', *World development*, *33*(3), pp.497-511.

Baiocchi, G., Graizbord, D. and Rodríguez-Muñiz, M. (2013) 'Actor-Network Theory and the ethnographic imagination: An exercise in translation', *Qualitative Sociology*, *36*(4), pp.323-341.

Bakker, P. (2014) *Do Smallholders Benefit from Group Certification. A Case Study on the Social and Economic Effects of Rainforest Alliance Group Certification on Small-Scale Tea Farmers in Misiones, Argentina*. Masters thesis. Wageningen University and Research.

Bamberger, M. (2012) 'Introduction to mixed methods in impact evaluation', I*mpact Evaluation Notes*, 3, pp.1-38.

Banks, J.A. (1998) ‘The lives and values of researchers: Implications for educating citizens in a multicultural society’, *Educational Researcher*, *27*(7), pp.4-17.

Barrett, C. and Mutambatsere, E. (2008) ‘Marketing boards’, in Blume, L. and Durlauf, S.(eds.) The *New Palgrave Dictionary of Economics.* London: Palgrave Macmillan, forthcoming

Barrientos, S. (2011)‘Beyond Fair Trade: why are mainstream chocolate companies pursuing social and economic sustainability in cocoa sourcing’, *ILO/IFC Better Work Conference*. October 2011. Manchester: Institute for Development Policy and Management, pp.1-16.

Barrientos, S. (2014) ‘Gendered global production networks: Analysis of cocoa–chocolate sourcing’, *Regional Studies*, *48*(5), pp.791-803.

Barrientos, S., Asenso-Okyere, K., Asuming-Brempong, S., Sarpong, D., Anyidoho, N., Kaplinsky, R. and Leavy, S. (2007) *Mapping sustainable production in Ghanaian cocoa*. *Report to Cadbury Schweppes plc.*Sussex: Institute of Development Studies

Bartus, T. (2005) ‘Estimation of marginal effects using margeff’, *Stata journal*, 5(3), pp. 309-329.

Baxter, P. and Jack, S. (2008) ‘Qualitative case study methodology: Study design and implementation for novice researchers’, *The qualitative report*, 13(4), pp.544-559.

Braun, V. and Clarke, V. (2006) ‘Using thematic analysis in psychology.’, *Qualitative Research in Psychology*, 3 (2). pp. 77-101

Beall, E. (2012) *Smallholders in Global Bioenergy Value Chains and Certification: Evidence from Three Case Studies*. Environment and Natural Resources Management Working Paper, 50. Available at: http://www.fao.org/docs/up/easypol/950/bioenergy_food_security_smallholders_global_bioenergy_value_chains_140en.pdf/ (Accessed 12 December 2018).

Bebbington, A. (2004) 'NGOs and uneven development: geographies of development intervention', *Progress in human geography*, *28*(6), pp.725-745.

Becchetti, L., Castriota, S., and Michetti, M. (2008) *Child labour and consumer responsibility: an impact study*. Working Paper 103, Society for the Study of Economic Inequality. Available at: http://www.ecineq.org/milano/WP/ECINEQ2008-103.pdf/(Accessed 12 December 2018).

Becchetti, L., Castriota, S. and Solferino, N. (2011) 'Development projects and life satisfaction: An impact study on fair trade handicraft producers', *Journal of Happiness Studies*, 12(1), pp.115-138.

Beckman, B. (1976) *Organising the Farmers. Cocoa Politics and National Development in Ghana*. Uppsala: The Scandinavian Institute of African Studies.

Bernard, T. and Spielman, D.J. (2009) 'Reaching the rural poor through rural producer organizations? A study of agricultural marketing cooperatives in Ethiopia', *Food policy*, *34*(1), pp.60-69

Bernard, H.R. (2006) Research methods in anthropology: Qualitative and quantitative approaches. 4th edn. Lanham: Rowman & Littlefield.

Berry, S.(1993) *No condition is permanent. The social Dynamics of Agrarian Change in Sub-Saharan Africa*. Madison: The University of Wisconsin Press.

Beuchelt, T., Zeller, M., and Oberthur, T. (2009) 'Justified hopes or utopian thinking? The suitability of coffee certification schemes as a business model for small-scale producers', *International Association of Agricultural Economists Conference.* Beijing, 16-22 August. Stuttgart: University of Hohenheim, Department of Agricultural Economics and Social Sciences in the Tropics and Subtropics, pp. 265-289.

Birckmayer, J.D. and Weiss, C.H. (2000) 'Theory-based evaluation in practice: what do we learn?', *Evaluation review*, *24*(4), pp.407-431.

Blackman, A., and Rivera, J. (2010) *The evidence base for environmental and socioeconomic impacts of "sustainable" certification*. Washington D.C.: Resources for the Future.

Blamey, A., and Mackenzie, M. (2007) 'Theories of change and realistic evaluation: peas in a pod or apples and oranges?', *Evaluation*, *13*(4), pp.439-455.

Bockman, J. and Eyal, G. (2002) 'Eastern Europe as a laboratory for economic knowledge: The transnational roots of neoliberalism', *American journal of sociology*, *108*(2), pp.310-352.

Boni, S. (2005) *Clearing the Ghanaian forest. Institute of African Studies*, University of Legon, Ghana.

Borjas, G. (1987) 'Self-Selection and the Earnings of Immigrants', *The American Economic Review*, 77(4), pp.531-553.

Borjas, G.J., Kauppinen, I., and Poutvaara, P. (2015) 'Self-selection of emigrants: Theory and evidence on stochastic dominance in observable and unobservable characteristics', *The Economic Journal*. Available at: https://doi.org/10.1111/ecoj.12585/ (Accessed 12 December 2018).

Bourdieu, P.(1986) 'The forms of capital', in Richardson, J. (ed.) *Handbook of Theory and Research for the Sociology of Education*. Westport: Greenwood, pp. 241–58.

Breimer, M. and de Vaal, A. (2012) *The effects of fair trade when productivity differences matter.* NiCE Working Paper 12-106. Available at: http://repository.ubn.ru.nl/bitstream/handle/2066/162783/162783.pdf?sequence=1 (Accessed: July 15 2018)

Breukers, B. (2015) *Are certification systems beneficial for farmers? An 'on-the-ground'comparison of co-existing sustainability standards in the Colombian coffee sector.* Master thesis. Utrecht University. Available at: https://dspace.library.uu.nl/handle/1874/323567 (Accessed:4 July 2018).

Brinkerhoff, D.W. (1991) ‘Looking out, looking in, looking ahead: guidelines for managing development programs’, *International Review of Administrative Sciences*, *58*(4), pp.483-503.

Busch, L. and Juska, A. (1997) ‘Beyond political economy: actor networks and the globalization of agriculture’, *Review of International PoliticaI Economy*, *4*(4), pp. 688-708.

Byerlee, D. and Rueda, X. (2015) ‘From public to private standards for tropical commodities: a century of global discourse on land governance on the forest frontier’, *Forests*, *6*(4), pp.1301-1324.

Caliendo M., Hujer, R. (2005) 'The microeconometric estimation of treatment effects: an overview', *Forschungsinstitut zur Zukunft der Arbeit (IZA)*. Discussion Papers 1653.

Caliendo, M., and Kopeinig, S. (2005) 'Some Practical Guidance for the Implementation of Propensity Score Matching'. *Forschungsinstitut zur Zukunft der Arbeit (IZA)*. Discussion Papers 1588.

Callon, M. (1986) ‘Some elements of a sociology of translation: domestication of the scallops and the fishermen of St Brieuc Bay’, in J. Law (ed.) *Power, action, and belief: a new sociology of knowledge?* London: Routledge & Kegan Paul, pp. 196−233.

Callon, M. (1991) ‘Techno-economic networks and irreversibility’, in J. Law (ed.)*A Sociology of Monsters: Essays on Power, Technology and Domination*. London: Routledge, pp. 132-161.

Caracelli, V.J. and Greene, J.C. (1997) ‘Crafting mixed-method evaluation designs’, *New directions for evaluation*, 1997(74), pp.19-32

Carimentrand, A., and Ballet, J. (2010) ‘When Fair Trade increases unfairness: The case of quinoa from Bolivia’, *Cahier, FREE 5-2010.*

Carswell, G. (1997) *Agricultural intensification and rural sustainable livelihoods: a'think piece’.* IDS Working Paper 64. Available at:https://opendocs.ids.ac.uk/opendocs/handle/123456789/3368/ (Accessed 12 December 2018).

Carvalho, S. and White, H. (2004) ‘Theory-based evaluation: the case of social funds’, *The American Journal of Evaluation*, *25*(2), pp.141-160.

Centre for the study of African economies (CSAE) & DFID (2002) Cocoa farmers’ questionnaire. Survey on productions , sales and marketing arrangements. Available at: https://assets.publishing.service.gov.uk/media/57a08cd640f0b6497400149c/R8078FinalreportAppendix.pdf (Accessed: January 18, 2018).

Cepeda, D., Pound, B., Nelson, V., Kajman, G., Cabascango, D., Martin, A., Chile, M., Posthumus, H., Caza, G., Mejia, I., Montenegro, F., Ruup, L., Velastegui, G.A., Tiaguaro, Y., Valverde, M., and Ojeda, A. (2013) *Assessing the Poverty Impact of Sustainability Standards: Ecuadorian Cocoa*. University of Greenwich: Natural Resources Institute.

Chambers, R. (1983) *Rural Development—Putting The Last First*. Essex, England: Longmans Scientific and Technical Publishers.

Chen, H.T. (1994) ‘Theory-driven evaluations: Need, difficulties, and options’, *Evaluation Practice*, *15*(1), pp.79-82.

Chiputwa, B., and Qaim, M. (2014) ‘Sustainability standards, gender, and nutrition among smallholder farmers in Uganda’, *GlobalFood Discussion Papers*, RTG1666, Georg-August- University of Göttingen.

Chiputwa, B., Spielman, D. J., and Qaim, M. (2015) ‘Food standards, certification, and poverty among coffee farmers in Uganda’, *World Development*, 66, pp.400-412.

Cocoa Life (2018) *The program*.Available at: https://www.cocoalife.org/the-program (Accessed :February 16 2018)

COSA (2013) The COSA Measuring Sustainability Report: Coffee and Cocoa in 12 Countries. Philadelphia, PA: The Committee on Sustainability Assessment

Cowen, M.P. and Shenton, R.W. (1998) 'Agrarian doctrines of development: Part I', *The Journal of Peasant Studies*, *25*(2), pp.49-76.

Cramer, C., Johnston, D., Oya, C., and Sender, J. (2014a) 'Fairtrade cooperatives in Ethiopia and Uganda: uncensored', *Review Of African Political Economy*, 41, pp.S115-S127.

Cramer, C., Johnston, D., Oya, C., and Sender, J. (2014b) *Fairtrade Employment and Poverty Reduction in Ethiopia and Uganda*. SOAS: The University of London. Available at: https://eprints.soas.ac.uk/20156/1/FTEPR%20Final%20Report%2019%20May%202014%20FINAL.pdf/ (Accessed 12 December 2018).

Cramer, C., Johnston, D., Mueller, B., Oya, C. and Sender, J. (2017) 'Fairtrade and labour markets in Ethiopia and Uganda', *The Journal of Development Studies*, *53*(6), pp.841-856.

CSAE and COCOBOD (2006) *Guide to Questionnaires and Supporting Materials. Ghana Cocoa Farmers Survey 2006*. Available at: http://www.andrewzeitlin.com/data/gcfs (Accessed: January 18, 2018)

Dammert, A.C. and Mohan, S. (2015) 'A survey of the economics of fair trade', .*Journal of Economic Surveys*, *29*(5), pp.855-868.

Davis, P. (2009) 'Poverty in Time: Exploring Poverty Dynamics from Life History Interviews in Bangladesh', in Addison, T., Hulme D., and Kanbur, R. (eds.) *Poverty Dynamics: Interdisciplinary Perspectives*. New York: Oxford University Press, pp. 154-182.

De Janvry, A., McIntosh, C. and Sadoulet, E. (2012) F*air trade and free entry: can a disequilibrium market serve as a development tool?* Available at:https://are.berkeley.edu/~esadoulet/papers/FT%20paper%20121221.pdf (Accessed 4 July 2018).

Deaton, A.S. (2009) *Instruments of development: Randomization in the tropics, and the search for the elusive keys to economic development.* National Bureau of Economic Research Working Paper No.14690. Available at: https://www.nber.org/papers/w14690/ (Accessed 12 December 2018).

Deppeler, A. (2014) *Who Benefits from certification? Analysis of third-party audited certification schemes in the cocoa sector in Ghana*. Master thesis. University of Bern.

Dey, I. (2003) *Qualitative data analysis: A user friendly guide for social scientists.*London: Routledge.

Doherty and Tranchell (2005) 'New Thinking in International Trade? A case study of the Day Chocolate Company', *Sustainable Development*, 13, pp.166-179.

Dong, Y. and Peng, C.Y.J. (2013) 'Principled missing data methods for researchers', *SpringerPlus*, *2*(1), p.222.

Dormon, E. N. A., Van Huis, A., Leeuwis, C., Obeng-Ofori, D., Sakyi-Dawson, O. (2004) 'Causes of low productivity of cocoa in Ghana: farmers' perspectives and insights from research and the

socio-political establishment', *NJAS-Wageningen Journal of Life Sciences*, *52*(3-4), pp. 237-259.

Dowdall, C.M. (2012) *Small farmer market knowledge and specialty coffee commodity chains in Western Highlands Guatemala*. PhD thesis. Florida International University.

Dragusanu, R., and Nunn, N. (2014) *The Impacts of Fair Trade Certification: Evidence From Coffee Producers in Costa Rica*. Available at: https://pdfs.semanticscholar.org/ae4e/d514beedc3871f157eed41a733adbc6277ed.pdf/ (Accessed 12 December 2018).

Dragusanu, R. and Nunn, N. (2018) *The Effects of Fair Trade Certification: Evidence from Coffee Producers in Costa Rica*. National Bureau of Economic Research Working Paper No.24260. Available at:https://www.nber.org/papers/w24260/ (Accessed 12 December 2018).

Dragusanu, R., Giovannucci, D. and Nunn, N. (2014) 'The economics of fair trade', *Journal of economic perspectives*, *28*(3), pp.217-36.

Dumont, E.S., Gnahoua, G.M., Ohouo, L., Sinclair, F.L. and Vaast, P. (2014) 'Farmers in Côte d'Ivoire value integrating tree diversity in cocoa for the provision of ecosystem services', *Agroforestry systems*, *88*(6), pp.1047-1066.

Durlauf, S.N. (1999) 'How can statistical mechanics contribute to social science?', *Proceedings of the National Academy of Sciences*, *96*(19), pp.10582-10584.

Duvendack, M. (2010) *Smoke and Mirrors: Evidence from Microfinance Impact Evaluations in India and Bangladesh*. Ph.D. thesis. University of East Anglia.

Dzadze, P., Osei Mensah, j., Aidoo, R., Nurah, G.,K. (2012) 'Factors determining access to formal credit in Ghana: A case study of smallholder farmers in the Abura-Asebu Kwamankese district of central region of Ghana', *Journal of Development and Agricultural Economics,* 4(14), pp.416-423.

Eisenhardt, K.M. (1989) 'Building theories from case study research;, *Academy of management review*, 14(4), pp.532-550.

Elo, S., and Kyngäs, H. (2008) 'The qualitative content analysis process', *Journal of advanced nursing*, 62(1), pp. 107-115.

Fairtrade International (2011) *Fairtrade Standard for Small Producer Organizations. Version 01.05.2011* .Available at: http://www.nbri.org.na/sites/default/files/Generic%20FT%20standard%20for%20SP%202011-05-1.pdf (Accessed 8 January 2018)

Fairtrade International (2018a) *Fairtrade and Traceability*.Available at: https://www.fairtrade.net/about-%20fairtrade/traceability.html (Accessed:16 February 2018)

Fairtrade International (2018b) *Our Vision & Mission.* Available at: https://www.fairtrade.net/about-fairtrade/our-vision.html (Accessed: 15 July 2018).

Fairtrade International (2019) *Journeys to Change. Fairtrade Theory of Change.* Available at: https://www.fairtrade.org.uk/~/media/FairtradeUK/What%20is%20Fairtrade/Documents/Fairtrade_Theory_of_Change%20-%202018.pdf (Accessed: 27 March 2019).

Fairtrade Foundation (no date) *Journeys to Change, Fairtrade Theory of Change.* Available at: https://www.fairtrade.org.uk/~/media/FairtradeUK/What%20is%20Fairtrade/Documents/Fairtrade_Theory_of_Change.pdf/ (Accessed 12 December 2018)

Farmers Alliance (2018) *History of cocoa.* Available at: http://farmersalliancegh.com/cocoa/ (Accessed: 1 December 2018)

Ferguson, J. (1994) *The anti-politics machine: Development. Depoliticization, and Bureaucratic Power in Lesotho.* Minneapolis: University of Minnesota Press

Fernandez, V.P. (2001) 'Observable and unobservable determinants of replacement of home appliances', *Energy Economics*, *23*(3), pp.305-323.

Ferrerocsr (2018) *Ferrero Group's goals for 2020*. Available at: https://www.ferrerocsr.com/glocal-care-/our-goals/for-2020/?lang=EN (Accessed: 15 July 2018).

Fick, M. (2015) *Ageing cocoa farmers pose risk for Ghana industry*. Available at: https://www.ft.com/content/d9cb0d1c-26e7-11e5-bd83-71cb60e8f08c (Accessed: 1 February 2018)

Fitzhugh, S.M., Butts, C.T. and Pixley, J.E. (2015) 'A life history graph approach to the analysis and comparison of life histories',. *Advances in Life Course Research*, *25*, pp. 16-34.

Flyvbjerg, B. (2013) 'Case Study', in Denzin N.K. and Lincoln, Y.,S. (eds.) *Strategies of Qualitative Inquiry*. Sage, pp. 169-203.

Francesconi, G.N. and Ruben, R. (2014) 'FairTrade's theory of change: an evaluation based on the cooperative life cycle framework and mixed methods', *Journal of Development Effectiveness*, *6*(3), pp.268-283.

Francis, J., Johnston, M., Robertson, C., Glidewell, L., Entwistle, V., Eccles, M. P. & Grimshaw, J. M. (2010) 'What is an adequate sample size? Operationalising data saturation for theory-based interview studies', *Psychology & Health*, 25(10), pp. 1229-1245.

Fraser, J., Fisher, E., and Arce, A. (2014) 'Reframing 'Crisis' in Fair Trade Coffee Production: Trajectories of Agrarian Change in Nicaragua', *Journal of Agrarian Change*, 14(1), pp.52-73.

Fold, N. (2002) 'Lead Firms and Competition in 'Bi-polar' Commodity Chains: Grinders and Branders in the Global Cocoa-chocolate Industry', *Journal of Agrarian Change*, 2(2), pp. 228-247.

Fort, R., and Ruben, R. (2009) 'The impact of Fair Trade on banana producers in northern Peru', . *International Association of Agricultural Economists Conference.* Beijing, August 16-22, pp.42-55.

Fountain, A.C. and Hütz-Adams, F. (2015) *Cocoa barometer 2015*.Available at: http://www.cocoabarometer.org/Cocoa_Barometer/Download_files/Cocoa%20Barometer%202015%20.pdf/(Accessed: 1 December 2018).

Fountain, A.C. and Hütz-Adams, F. (2018) *Cocoa barometer 2018.* Available at: http://www.cocoabarometer.org/Cocoa_Barometer/Download_files/2018%20Cocoa%20Barometer.pdf/ (Accessed: 1 December 2018).

Gilbert, C., Varangis, P. (2004) 'Globalization and international commodity trade with specific reference to the West African cocoa producers', in Baldwin R. and Winters A. (eds.) *Challenges to Globalization: Analyzing the Economics*.Chicago: University of Chicago Press, pp. 131-166.

Giovannucci, D. and Ponte, S. (2005) 'Standards as a new form of social contract? Sustainability initiatives in the coffee industry', *Food policy*, *30*(3), pp.284-301.

Gittinger, J.P. (1985) *Analyse économique des projets agricoles*. l'Institut de développement économique de la Banque mondiale.

Glaser, B. G., and Strauss, A. L. (1967) T*he discovery of grounded theory: Strategies for qualitative research*. Hawthorne, NY: Aldine.

'Goaso' (2018) *Goaso.* Available at: https://en.wikipedia.org/wiki/Goaso (Accessed: 14 December 2018).

Gockowski, J., Afari-Sefa, V., Sarpong, D.B., Osei-Asare, Y.B. and Agyeman, N.F. (2013) 'Improving the productivity and income of Ghanaian cocoa farmers while maintaining environmental services: what role for certification?', *International Journal of Agricultural Sustainability*, *11*(4), pp.331-346.

Goldhader, D.D., Brewer, D.J. and Anderson, D.J. (1999) 'A three-way error components analysis of educational productivity', *Education Economics*, *7*(3), pp. 199-208.

Goodman, D. (1999) ‘Agro-Food Studies in the ‘Age of Ecology’: Nature, corporeality, bio-politics’, .Sociologia Ruralis, 39(1).

Gordon, J. (1976) ‘Cocoa production in West Africa’, in Simmons, J.(ed.)*Cocoa Production. Economic and Botanical Perspectives*. New York: Praeger Publishers.

Graneheim, U.H. and Lundman, B. (2004) ‘Qualitative content analysis in nursing research: concepts, procedures and measures to achieve trustworthiness’, *Nurse Education Today*, 24(2), pp.105-112.

Grbich, C. (2012) Qualitative data analysis: An introduction. 2nd edn. London: Sage

Greene, J.C., Caracelli, V.J., and Graham, W.F. (1989) ‘Toward a conceptual framework for mixed-method evaluation designs’, *Educational evaluation and policy analysis*, *11*(3), pp.255-274.

Greenhalgh, T., Humphrey, C., Hughes, J., Macfarlane, F., Butler, C. and Pawson, R.A.Y. (2009) ‘How do you modernize a health service? A realist evaluation of whole−scale transformation in London’, *The Milbank Quarterly*, *87*(2), pp.391-416.

Griffiths, P. (2011) 'Ethical Objections to Fairtrade', *Journal of Business Ethics*,105 (3), pp.357-373

Griffiths, P. (2014) ‘Fairtrade: comment on Tedeschi and Carlson’, *Journal of International Development*, *26*(2), pp.277-289.

Guyer, J.,I. (1980) ‘Food, cocoa, and the division of labour by sex in two West African societies’, *Comparative Studies in Society and History*, 22(3), pp.355-373.

Haight, C. and Henderson, D.R. (2010) ‘Fair trade is counterproductive and unfair: Rejoinder’, *Economic Affairs*, *30*(1), pp.88-91.

Hansen, H. and Trifković, N. (2013) *Food standards are good–for middle-class farmers*. IFRO Working Paper; No. 19..Available at: http://curis.ku.dk/ws/files/65651991/IFRO_WP_2013_19.pdf (Accessed: 4 July 2018).

Hauke, J. and Kossowski, T. (2011) 'Comparison of values of Pearson's and Spearman's correlation coeficient on the same sets of data', *Quaestiones Geographicae* 30(2), pp. 87–93

Hawkins, G. (2011) 'Packaging water: plastic bottles as market and public devices', *Economy and Society*, *40*(4), pp.534-552.

Heckman, J., J. (1979) 'Sample Selection Bias as a Specification Error', *Econometrica*, 47 (1), pp. 153-161.

Heckman, J.,J., Vytlacil, E., J. (2007) 'Econometric Evaluation of Social Programs, Part II: Using the Marginal Treatment Effect to Organize Alternative Econometric Estimators to Evaluate Social Programs, and to Forecast their Effects in New Environments' in Heckman, J., J., and Leamer, E., E., (eds.) *Handbook of Econometrics*, Volume 6, Part B. Amsterdam: North-Holland, pp. 4875-5143.

Heeks, R. (2013) *Actor-Network Theory for Development*. Development Studies Research and Actor-Network Theory Working Paper Series No. 01. Available at: http://hummedia.manchester.ac.uk/institutes/cdi/resources/cdi_ant4d/ANT4DPaper1Heeks.pdf/ (Accessed: 1 December 2018)

Heller, A. (2010) *Why organizations matter: Certification experiences of coffee producer groups in Guatemala.* PhD thesis. Colorado State University

Henderson, D.R. (2008) 'Fair trade is counterproductive–and unfair', *Economic Affairs*, *28*(3), pp.62-64.

Hill, P. (1963) *The migrant cocoa farmers of Southern Ghana. A study in rural capitalism.* Cambridge: Cambridge University Press.

Hill, P. (1970) *Studies in rural capitalism in West Africa*. Cambridge: Cambridge University Press.

Hirschman, A.O. (1967) *Development projects observed*. Washington: The Brookings Institution

Honadle, G.H. and Rosengard, J.K. (1983) 'Putting 'projectized'development in perspective', *Public Administration and Development*, *3*(4), pp.299-305.

Houtkoop-Steenstra, H. (2000) *Interaction and the standardized survey interview: The living questionnaire.* Cambridge: Cambridge University Press

Hughes, A. (2000) 'Retailers, knowledges and changing commodity networks: the case of the cut flower trade', Geoforum, 31(2), pp.175-190.

Humphries, M. (no date) *Missing Data & How to Deal: An overview of missing data*. Available at: https://liberalarts.utexas.edu/prc/_files/cs/Missing-Data.pdf (Accessed 7 July 2018).

ICCO (2013) *29 Signatories to the Abidjan Cocoa Declaration take the first step to a sustainable sector.* Available at: https://www.icco.org/about-us/icco-news/209-29-signatories-to-the-abidjan-cocoa-declaration-take-the-first-step-to-a-sustainable-sector.html (Accessed: 15 July 2018)

ICCO (2017) *ICCO Quarterly Bulletin of Cocoa Statistics, Vol. XLIII, No. 3, Cocoa year 2016/17*. Available at: https://www.icco.org/about-us/international-cocoa-agreements/cat_view/30-related-documents/46-statistics-production.html (Accessed: 15 July 2018)

Iliffe, J. (1983) *The Emergence of African Capitalism.* London: The Macmillan Press LTD.

Imbens, G.W. and Wooldridge, J.M. (2009) 'Recent developments in the econometrics of program evaluation', *Journal of economic literature*, *47*(1), pp.5-86.

Ingram, V., Waarts, Y., Ge, L., van Vugt, S.M., Wegner, L., Puister-Jansen, L.F., Ruf, F. and Tanoh, R. (2014) *Impact of UTZ certification of cocoa in Ivory Coast. Assessment framework and baseline* (No. 2014-010). LEI Wageningen UR. Available at: https://library.wur.nl/WebQuery/wurpubs/479277/ (Accessed: 1 December 2018)

International Trade Centre (ITC). (2011) *The Impacts of Private Standards on Producers In Developing Countries.* (Literature Review Series on the Impacts of Private Standards; Part II). Geneva: International Trade Centre (ITC).

Ito, J., Bao, Z. and Su, Q. (2012) 'Distributional effects of agricultural cooperatives in China: Exclusion of smallholders and potential gains on participation', *Food policy*, *37*(6), pp.700-709.

Jaffee, D. (2007) *Brewing Justice. Fair Trade Coffee, Sustainability, and Survival*. Berkeley: University of California Press.

Jena, P.R., Chichaibelu, B.B., Stellmacher, T. and Grote, U. (2012) 'The impact of coffee certification on small-scale producers' livelihoods: a case study from the Jimma Zone, Ethiopia', *Agricultural economics*, *43*(4), pp.429-440.

Jick, T.D. (1979) 'Mixing qualitative and quantitative methods: Triangulation in action', *Administrative science quarterly*, 24(4), pp.602-611.

Kaplinksy, R. (2004) Competitions policy and the global coffee and cocoa value chains. *United Nations Conference for Trade and Development (UNCTAD).*Available at: https://www.ids.ac.uk/files/RKaplinskycocoacoffee05.pdf/ (Accessed: 1 December 2018)

Kariuki, I.M. (2014) 'Transition to certification schemes and implications for market access: GlobalGAP perspectives in Kenya', *Agricultural Sciences*, 5(12), pp. 1100-1111.

Kazi, M. (2003) 'Realist evaluation for practice', *British journal of social work*, *33*(6), pp.803-818.

Khandker, S.R. (1998) 'Micro-Credit Programme Evaluation: A Critical Review 1', *IDS bulletin*, *29*(4), pp.11-20.

Khandker, S.R., Koolwal, G.B. and Samad, H.A. (2010) *Handbook on impact evaluation: quantitative methods and practices.* World Bank Publications.

Kitzinger, J. (1995) 'Qualitative research. Introducing focus groups', *British Medical Journal*, 311, pp.299-311.

Knudsen, M.H. and Fold, N.(2011) 'Land distribution and acquisition practices in Ghana's cocoa frontier: The impact of a state-regulated marketing system', *Land Use Policy*, *28*(2), pp.378-387.

Kolavalli, S., and Vigneri, M. (2011) 'Cocoa in Ghana: Shaping the Success of an Economy', in Chuhan P. and Angwafo, M. (eds.) *Yes Africa can: success stories from a dynamic continent*. Washington: The World Bank.

Kolavalli, S., and Vigneri, M.(2017) *The cocoa coast: The board-managed cocoa sector in Ghana*. Washington, DC: International Food Policy Research Institute.

Kolavalli, S.,Vigneri, M.,Maamah, H., Poku, J. (2012) The Partially Liberalized Cocoa Sector in Ghana. Producer Price Determination, Quality Control, and Service Provision. IFPRI Discussion Paper 01213. Available at: http://www.ifpri.org/publication/partially-liberalized-cocoa-sector-ghana-producer-price-determination-quality-control/(Accessed: 1 December 2018)

Kontinen, T. (2004) Introduction: about intervention and methodologies. In: Kontinen, T. ed., 2004. *Development intervention: Actor and activity perspectives*. University of Helsinki, Center for Activity Theory and Developmental Work Research and Institute for Development Studies.

Kracker, J., and Wang, P. (2002) ‘Research anxiety and students' perceptions of research: An experiment. Part II. Content analysis of their writings on two experiences’, *Journal of the Association for Information Science and Technology*, 53(4), pp. 295-307.

Krauss, A. (2018) ‘Why all randomised controlled trials produce biased results’, *Annals of medicine*, pp.1-11.

Kuapa Kokoo (2018a) *About Kuapa Kokoo.*Available at: https://www.kuapakokoo.com. (Accessed: 18 January2018).

Kuapa Kokoo (2018b) *About Kuapa Kokoo.*Available at: https://www.kuapakokoo.com. (Accessed: 18 January2018).

Kyei, L., Foli, G. and Ankoh, J. (2011) ‘Analysis of factors affecting the technical efficiency of cocoa farmers in the Offinso district-Ashanti region, Ghana’, *American journal of social and management sciences*, *2*(2), pp.208-216.

Läderach, P., Martinez-Valle, A., Schroth, G. and Castro, N. (2013) ‘Predicting the future climatic suitability for cocoa farming of the world’s leading producer countries, Ghana and Côte d’Ivoire’, *Climatic change*, *119*(3-4), pp.841-854.

Laroche, K., Jiménez, R., and Nelson, V. (2012) Assessing the Impact of Fairtrade for Peruvian Cocoa Farmers. University of Greenwich: Natural Resources Unit. Available at: https://s3.amazonaws.com/academia.edu.documents/36179583/Final_COCOA_report_anonymized2014.pdf?AWSAccessKeyId=AKIAIWOWYYGZ2Y53UL3A&Expires=1544709112&Signature=NCWTnceqxyz5AGPlchIgHEx8ouw%3D&response-content-disposition=inline%3B%20filename%3DAssessing_the_Impact_of_Fairtrade_for_Pe.pdf/ (Accessed: 1 December 2018)

Latour, B. (1987) *Science in Action: How to Follow Scientists and Engineers Through Society*. Milton Keynes: Open University Press.

Laven, A., C. (2010) *The risks of inclusion: shifts in governance processes and upgrading opportunities for cocoa farmers in Ghana*. PhD thesis. Amsterdam Institute for Social Science Research.

Law, J. (1992) 'Notes on the theory of the actor−network: ordering, strategy, and heterogeneity', *Systemic Practice and Action Research*, 5, pp. 379−393

Lernoud, J., Potts, J., Sampson, G., Garibay, S., Lynch, M., Voora, V., Willer, H. and Wozniak, J. (2017) *The State of Sustainable Markets – Statistics and Emerging Trends 2017*. Geneva: ITC.

Liao, T., F. (1994) Interpreting Probability Models. Logit, Probit, and Othe Generalized Linear Models. Thousand Oaks: Sage Publications, Inc.

Lin,N, (1999) 'Building a Network Theory of Social Capital', *Connections,* 22(1), pp. 28-51.

Locke, C., Lloyd-Sherlock, P. (2011) 'Qualitative life course methodologies: Critical reflections from development studies', *Development and Change*, 42 (5), pp. 1131-1152.

Long, N. (1999) The multiple optic of interface analysis, UNESCO Background Paper on Interface Analysis. Wageningen: Agricultural University of Wageningen

Long, N. (2001) *Development sociology: actor perspectives*. London: Routledge.

Long, N. (2004) 'Actors, interfaces and development intervention: meanings, purposes and powers', in Kontinen, T. (ed.) *Development intervention: Actor and activity perspectives*. Helsinki: Center for Activity Theory and Developmental Work Research and Institute for Development Studies, pp:14-36.

Long, N. (2015) 'Activities, actants and actors: Theoretical perspectives on development practice and practitioners', in: Milone, P., Ventura, F. and Ye, J. (eds.) *Constructing a new framework for rural development.* Emerald Group Publishing

Limited, pp. 31-58. Available at: https://doi.org/10.1108/S1057-192220150000022002/, (Accessed: 1 December 2018)

Long, N. and Ploeg, J.D.V.D. (1989) 'Demythologizing planned intervention: an actor perspective', *Sociologia Ruralis*, *29*(3-4), pp.226-249.

Losch, B. (2002) 'Global Restructuring and Liberalization: Côte d'Ivoire and the End of the International Cocoa Market?', *Journal of Agrarian Change*, *2*(2), pp.206-227.

Löwe, A. (2017) Creating opportunities for young people in Ghana's cocoa sector. Working Paper 511. ODI. Available at: https://www.odi.org/sites/odi.org.uk/files/resource-documents/11635.pdf/ (Accessed: 1 December 2018)

Luetchford, P. (2008)'The hands that pick fair trade coffee: Beyond the charms of the family farm.' In De Neve, G., Luetchford, P., Pratt, J., and Wood, D.C. (eds.) *Hidden hands in the market: Ethnographies of fair trade, ethical consumption, and corporate social responsibility.* Bingley: Emerald Group Publishing Limited, pp. 143-169.

Macfarlane, A. (1996) *Interview with Polly Hill, Part 1 of 2.* Available at:https://www.youtube.com/watch?v=Wpcojl_us9c/(Accessed: 1 December 2018)

Madey, D.L. (1982) 'Some benefits of integrating qualitative and quantitative methods in program evaluation, with illustrations', *Educational evaluation and policy analysis*, 4(2), pp.223-236.

Maertens, M. and Swinnen, J.F. (2009) 'Trade, standards, and poverty: Evidence from Senegal', *World development*, *37*(1), pp.161-178.

Marchal, B., van Belle, S., van Olmen, J., Hoerée, T. and Kegels, G. (2012) 'Is realist evaluation keeping its promise? A review of published empirical studies in the field of health systems research', *Evaluation*, *18*(2), pp.192-212.

Mars (2018) *Cocoa. Caring for the future of cocoa: Our approach*. Available at: http://www.mars.com/global/sustainable-in-a-generation/our-approach-to-sustainability/raw-materials/cocoa (Accessed: 15 July 2018).

Mayer, F. and Gereffi, G. (2010) 'Regulation and economic globalization: Prospects and limits of private governance', *Business and Politics*, *12*(3), pp.1-25.

McCarthy (2015) *The World's Biggest Chocolate Consumers [Infographic]*. Available at: https://www.forbes.com/sites/niallmccarthy/2015/07/22/the-worlds-biggest-chocolate-consumers-infographic/#12c7f5d24484 (Accessed: 15 July 2018).

McFarlane, S. And Hunt, N. (2015) *Olam completes acquisition of ADM's cocoa business.* Available at: https://www.reuters.com/article/us-cocoa-olam-intl-archer-daniels/olam-completes-acquisition-of-adms-cocoa-business-idUSKCN0SA24Y20151016(Accessed: 15 July 2018)

McKay, A., and Coulombe, H.(2003) *Selective Poverty Reduction in a Slow Growth Environment: Ghana in the 1990s.* Washington: World Bank.

McMillan, M. (1998) *A dynamic theory of primary export taxation: Evidence from Sub-Saharan Africa.* Discussion Paper No. 9812. Available at: http://ase.tufts.edu/econ/papers/9812.pdf/ (Accessed: 1 December 2018).

Mercer, C. (2002) 'NGOs, civil society and democratization: a critical review of the literature', *Progress in development studies*, *2*(1), pp.5-22.

Mikell, G. (1992) Cocoa and chaos in Ghana. New York: Howard University Press.

Milburn, J.(1976) 'Cocoa Marketing in Ghana', in Simmons, J.(ed.)*Cocoa Production. Economic and Botanical Perspectives*. New York: Praeger Publishers

Milder, J., C., and Newsom, D. (2015) SAN/Rainforest Alliance Certification System on Farms, People, and the Environment. Rainforest Alliance & Sustainable Agriculture Network.

Milford, A.B. (2012) ‘The Pro-Competitive Effect of Coffee Cooperatives in Chiapas, Mexico’, *Journal of Agricultural & Food Industrial Organization*, 10(1). Available at: https://doi.org/10.1515/1542-0485.1362 / (Accessed: 1 December 2018).

Milford, A.B. (2014) ‘Co-operative or coyote? Producers' choice between intermediary purchasers and Fairtrade and organic co-operatives in Chiapas’, *Agriculture and Human Values,* 31(4), pp. 577-591.

Minten, B., Dereje, M., Engeda, E., and Tamru, S. (2015) Who benefits from the rapidly increasing Voluntary Sustainability Standards? Evidence from Fairtrade and Organic certified coffee in Ethiopia. IFPRI Working Paper 71. Available at: http:// www.bdsknowledge.org/dyn/bds/docs/923/esspwp71.pdf/ (Accessed: 1 December 2018).

Mohammed, D., Asamoah, D. and Asiedu-Appiah, F. (2011) Cocoa value chain-implication for the smallholder farmer in Ghana. Department of Information Systems and Decision Sciences, KNUST. Available at : http://hdl.handle.net/ 123456789/11637/ (Accessed: 1 December 2018).

Moeller (2012) *Case study: Kraft’s takeover of Cadbury*. Available at: https:// www.ft.com/content/1cb06d30-332f-11e1-a51e-00144feabdc0 (Accessed 15 July 2018).

Morgan, D.L. (1993) ‘Qualitative content analysis: a guide to paths not taken’, *Qualitative health research*, 3(1), pp.112-121.

Morgan, E.P. (1983) ‘The project orthodoxy in development: Re-evaluating the cutting edge’, *Public Administration and Development*, *3*(4), pp.329-339.

Morton, J.F. (2007) ‘The impact of climate change on smallholder and subsistence agriculture’, *Proceedings of the national academy of sciences*, *104*(50), pp. 19680-19685.

Mosse, D. (2005) *Cultivating Development. An Ethnography of Aid Policy and Practice*. London: Pluto Press.

Mosse, D. and Lewis, D. (2006) 'Theoretical approaches to brokerage and translation in development', in Lewis, D. and Mosse, D. (eds.) *Development brokers and translators: The ethnography of aid and agencies.* Bloomfield: Kumarian Press, pp. 1-26.

Mueller, A.K., and Theuvsen, L. (2015) *Financial literacy and food safety standards in Guatemala: The heterogeneous impact of GlobalGAP on farm income*. Global Food Discussion Papers, 63. Germany: Georg-August-University of Göttingen.

Müller, M. (2012) 'Opening the black box of the organization: socio- material practices of geopolitical ordering', *Political Geography* 31: forthcoming

Murdoch, J., (1997) 'Towards a geography of heterogeneous associations', *Progress in Human Geography*, *21*(3), pp.321-337.

Muriithi, B.W., Mburu, J. and Ngigi, M. (2011) 'Constraints and determinants of compliance with EurepGap standards: a case of smallholder french bean exporters in Kirinyaga district, Kenya', *Agribusiness*, *27*(2), pp.193-204.

Murray, D. and Raynolds, L.T. (2007) 'Globalization and its antinomies: negotiating a Fair Trade movement', in Raynolds, L.T., Murray, D. and Wilkinson J.(eds.) *Fair Trade. The challenges of transforming globalisation.* Oxon*:* Routledge, pp. 19-30.

Nelson, V., and Martin, A. (2013) *Final Technical Report: Assessing the Poverty Impact of Sustainability Standards*. Greenwich: Natural Resources Institute.

Nelson, V., Opoku, K., Martin, A., Bugri, J., and Posthumus, H. (2013) *Assessing the poverty impact of sustainability standards: Fairtrade in Ghanaian cocoa* .Greenwich: Natural Resources Institute.

Nelson, V., and Pound, B. (2009) T*he last ten years: a comprehensive review of the literature on the impact of Fairtrade*. London: Fairtrade Foundation.

Nelson, V., Tallontire, A. and Collinson, C. (2002) 'Assessing the benefits of ethical trade schemes for forest dependent people: comparative experience from Peru and Ecuador', *International Forestry Review*, *4*(2), pp.99-109.

Nieburg, O. (2012) *Hershey stuns critics with commitment to source 100% certified cocoa by 2020*. Available at: https://www.confectionerynews.com/Article/2012/10/04/Hershey-commits-to-fully-certfied-cocoa-by-2020 (Accessed 15 July 2018)

Nieburg, O. (2014) *The chocolate league tables 2014: Top 20 consuming nations*. Available at: https://www.confectionerynews.com/Article/2014/10/09/Chocolate-consumption-by-country-2014 (Accessed 15 July 2018)

Nieburg,O. (2015) *Mondelez adds further third party verification to Cocoa Life program.* Available at: https://www.confectionerynews.com/Article/2015/02/05/FLOCERT-to-verify-Mondelez-Cocoa-Life-program (Accessed 12 April 2018)

Nukunya, G.K. (1992) *Tradition and Change in Ghana: An Introduction to Sociology.* Accra: Ghana Universities Press

Nyame, F.K. and Blocher, J. (2010) 'Influence of land tenure practices on artisanal mining activity in Ghana', *Resources Policy*, *35*(1), pp.47-53.

Off, C. (2006) *Bitter chocolate: Investigating the dark side of the world's most seductive sweet*. Toronoto: Random House Canada

Okali, C. (1983) *Cocoa and Kinship in Ghana: The Matrilineal Akan of Ghana*. London: Kegan Paul International Ltd and International African Institute.

Oya, C. (2007) 'Stories of rural accumulation in Africa: trajectories and transitions among rural capitalists in Senegal', *Journal of Agrarian Change*, 7(4), pp.453-493.

Oya C, Schaefer F, Skalidou D, McCosker C, Langer L. (2017) *Effects of certification schemes for agricultural production on socio-economic outcomes in low- and middle- income countries: a systematic review*. Campbell Systematic Reviews 2017:3. Available at: https://campbellcollaboration.org/media/k2/attachments/Campbell_systematic_review-agricultural_ertification_schemes.pdf/ (Accessed: 1 December 2018).

Oya, C., Schaefer, F. and Skalidou, D. (2018) 'The effectiveness of agricultural certification in developing countries: A systematic review', *World Development*, *112*, pp.282-312.

Palinkas, L.A., Horwitz, S.M., Green, C.A., Wisdom, J.P., Duan, N. and Hoagwood, K. (2015) 'Purposeful sampling for qualitative data collection and analysis in mixed method implementation research', *Administration and Policy in Mental Health and Mental Health Services Research*, 42(5), pp.533-544.

Parvathi, P. and Waibel, H. (2016) 'Organic agriculture and fair trade: A happy marriage? A case study of certified smallholder black pepper farmers in India', *World Development*, *77*, pp.206-220.

Paschall, M. (2013) *The Role of Third Party Certification in Improving Small Farmer Livelihoods,* PhD thesis. University of St. Gallen. Available at: https://www1.unisg.ch/www/edis.nsf/SysLkpByIdentifier/4101/$FILE/dis4101.pdf (Accessed: 4 July 2018).

Pawson, R., and Tilley, N.(2004) *Realist Evaluation.* London: British Cabinet Office.

PBC (2018) *Historical Background*. Available at: http://www.pbcgh.com/background (Accessed:3 February 2018).

Percival, M. (2015) *Cocoa-nomics: Why chocolate really doesn't grow on trees.* Available at: http://edition.cnn.com/2014/02/13/world/africa/cocoa-nomics-does-chocolate-grow-on-trees/ (Accessed: 21 November 2015).

Petrokofsky, G. and Jennings, S. (2018) *The effectiveness of standards in driving adoption of sustainability practices: A State of Knowledge Review*. Available at: https://unfss.org/wp-content/uploads/2018/05/Full_report_The_effectiveness_of_standards_in_driving_adoption_of_sustainability_practices_FINAL.pdf (Accessed 4 July 2018)

Philips, E., J. (1977) 'Mistletoe on cocoa in Ghana', *Ghana journal of agricultural science,*10 (2), pp. 137-143.

Pitt, M.M. and Khandker, S.R. (1998) 'The impact of group-based credit programs on poor households in Bangladesh: Does the gender of participants matter?', *Journal of political economy*, *106*(5), pp.958-996.

Pitt, M.M., Rosenzweig, M.R. and Gibbons, D.M. (1993) 'The determinants and consequences of the placement of government programs in Indonesia', *The World Bank Economic Review*, *7*(3), pp.319-348.

Pongratz-Chander, K. (2007) *Fair trade coffee in Costa Rica: A new model for sustainable development?* PhD thesis. Northern Arizona University.

Potts, J., Lynch, M., Wilkings, A., Huppé, G., Cunningham, M. and Voora, V. (2014) *The State of Sustainability Initiatives Review - Standards and the Green Economy 2014*. Geneva: ITC,

Quarmine, W., Haagsma, R., Sakyi-Dawson, O., Asante, F., Van Huis, A. and Obeng-Ofori, D. (2012) 'Incentives for cocoa bean production in Ghana: Does quality matter?'. *NJAS-Wageningen Journal of Life Sciences*, *60*, pp.7-14.

Rainforest Alliance (2016) *Guidance for Working with the Rainforest Alliance mass Balance Cocoa Sourcing Program*. Available at: https://www.rainforest-alliance.org/business/sites/default/files/uploads/4mass_balance_guidance_formatted_EN_170130.pdf (Accessed: 3 February 2018).

Rainforest Alliance (2017a) *The Rainforest Alliance and UTZ to Merge, Forming New, Stronger Organization.* Available at: https://www.rainforest-alliance.org/articles/rainforest-alliance-utz-merger (Accessed: 15 July 2018)

Rainforest Alliance (2017b) *Rainforest Alliance Sustainable Agriculture Standard. For farms and producer groups involved in crop and cattle production. Version 1.2*. Available at: https://www.rainforest-alliance.org/business/sas/wp-content/uploads/2017/11/03_rainforest-alliance-sustainable-agriculture-standard_en.pdf. (Accessed 8 January 2018).

Rainforest Alliance (2018) *Our Approach*. Available at: https://www.rainforest-alliance.org/approach(Accessed: 15 July 2018)

Ravallion, M. (2001) 'The mystery of the vanishing benefits: An introduction to impact evaluation', T*he World Bank Economic Review*, *15*(1), pp.115-140.

Riisgaard, L. (2009) How the market for standards shapes competition in the market for goods: sustainability standards in the cut flower industry, *DIIS Working Paper 2009:07*.Avaialble at: https://www.econstor.eu/bitstream/10419/44693/1/605422753.pdf/ (Accessed: 1 December 2018)

Ritchie, J., Lewis, J. and Elam, G., Tennat, R., Nilufer R.. (2013) Designing and Selecting Samples, in Ritchie, J., Lewis, J., Mcnaughton Nicholls, C., and Ormston, R. (eds.) *Qualitative Research Practice: A guide for social science students and researchers*, London: SAGE, pp. 111-142. Robertson, A.F. (1980) 'On sharecropping', *Journal of the Royal Anthropological Institute 15(13)*, pp. 411-429.

Robertson, A.F. (1987) *The dynamics of productive relationships. African share contracts in comparative perspective*.Cambridge: Cambridge University Press.

Rogers, P.J. (2007) 'Theory-based evaluation: Reflections ten years on', *New directions for evaluation*,(114), pp.63-67.

Rondinelli, D.A.(1983) ‘Projects as instruments of development administration: a qualified defence and suggestions for improvement’, *Public Administration and Development*, *3*(4), pp.307-327.

Rosenzweig, M.R. and Wolpin, K.I. (1986) ‘Evaluating the effects of optimally distributed public programs: Child health and family planning interventions’, *The American Economic Review*, *76*(3), pp.470-482.

Rossi, B. (2006) ‘Aid Policies and Recipient Strategies in Niger: Why Donors and Recipients Should Not Be Compartmentalized into Separate “Worlds of Knowledge”’ *,* in Lewis, D. and Mosse, D. (eds) *Development brokers and translators: The ethnography of aid and agencies.* Bloomfield: Kumarian Press, pp. 27-50.

Rossi, P.H., Lipsey, M.W. and Freeman, H.E. (2003) *Evaluation: A systematic approach.* 2nd edn. Thousand Oaks: Sage publications.

Rotter, S. (2000) *A just harvest: A naturalistic evaluation of a fair trade coffee project in San Lucas Toliman, Guatemala*. Master thesis. University of Guelph.

Roy, A. D. (1951) 'Some thoughts on the distribution of earnings'. *Oxford economic papers*, 3(2),pp. 135-146.

Ruben, R., and Fort, R. (2012) ‘The impact of fair trade certification for coffee farmers in Peru’, *World Development*, 40(3), pp.570-582.

Ruben,R., Hoebnik, P. (2015) *Coffee certification in East Africa: Impact on farmers, families and cooperatives.* Wageningen: Wageningen Academic Publishers,

Rubin, D., B. (1974) 'Estimating Causal Effects of Treatments in Randomized and Nonrandomized Studies'. *Journal of Educational Psychology*, 66 (5), pp. 688-701.

Rubin, D., B. (2005) 'Causal Inference Using Potential Outcomes: Design, Modeling, Decisions'. *Journal of the American Statistical Association*. 100 (469), pp. 322-331.

Ruf, F. (2011) 'The Myth of Complex Cocoa Agroforests: The case of Ghana', *Human Ecology*, 39, pp. 373-388.

Ruf, F. (2014) *Cocoa cultivation in Gnana and the 'abunu' contract: a labour-land exchange between two generations,* CIRAD-ES, UMR Innovation. Available at:https://www.researchgate.net/publication/309908604_2014_10_30_Ruf_Cocoa_in_Ghana_Abunu_contrat_ENGLISH_VERSION (Accessed 8 January 2018).

Ruf, F., Schroth, G. and Doffangui, K. (2015) 'Climate change, cocoa migrations and deforestation in West Africa: What does the past tell us about the future?'. *Sustainability Science*, *10*(1), pp.101-111.

Ruf F., Zadi H. (1998) 'Cocoa : from deforestation to reforestation', *First international workshop on Sustainable Cocoa Growing. Panama City*, 29 March - 03 April .Smithsonian Institute .Available at: https://agritrop.cirad.fr/390123/1/document_390123.pdf/ (Accessed 8 January 2018).

Russo, F., Wunsch, G. and Mouchart, M. (2011) 'Inferring Causality through Counterfactuals in Observational Studies-Some Epistemological Issues', *Bulletin of Sociological Methodology/Bulletin de Méthodologie sociologique*, *111*(1), pp.43-64.

Ryan, Ó. (2011) *Chocolate Nations: Living and Dying for Cocoa in West Africa*. London: Zed Books.

Sahota, A. (2017) *The pendulum is swinging towards in-house sustainable sourcing*. Available at: https://www.confectionerynews.com/Article/2017/09/11/The-pendulum-is-swinging-towards-in-house-sustainable-sourcing. (Accessed 12 April 2018).

Salter,K.(2014) *Save our chocolate: expert tips to halt the cocoa shortage*. Available at: https://www.theguardian.com/lifeandstyle/wordofmouth/2014/nov/18/save-our-chocolate-expert-tips-halt-cocoa-shortage (Accessed: 12 April 2018).

SAN/Rainforest Alliance (2015) *SAN/Rainforest Alliance Impacts Report. Evaluation the Effects of the SAN/ Rainforest Alliance Certification System on Farms, People, and the Environment.* Available at: https://www.rainforest-alliance.org/sites/default/files/2016-08/SAN_RA_Impacts_Report.pdf#page=16 (Accessed: 27 March 2019).

Sandelowski, M. (1995) 'Sample size in qualitative research', *Research in nursing & health*, *18*(2), pp.179-183.

Scholz, R.W. and Tietje, O. (2002) *Embedded case study methods: Integrating quantitative and qualitative knowledge*. Thousand Oaks: Sage Publications Inc.

Schrage, E.J. and Ewing, A.P. (2005) 'The cocoa industry and child labour', *Journal of Corporate Citizenship*, 18, pp.99-112.

Schroth, G. and Harvey, C.A. (2007) 'Biodiversity conservation in cocoa production landscapes: an overview', *Biodiversity and Conservation*, *16*(8), pp.2237-2244.

Schroth, G., Läderach, P., Martinez-Valle, A.I., Bunn, C. and Jassogne, L. (2016) 'Vulnerability to climate change of cocoa in West Africa: Patterns, opportunities and limits to adaptation', *Science of the Total Environment*, *556*, pp.231-241.

Schuster, M., and Maertens, M. (2015) 'Do labor standards benefit workers in horticultural export chains in Peru?'*, International Conference of Agricultural Economists.Universita deli study di Milano, Milan, 8-14 August.*Belgium: University of Leuven.Available at: https://ageconsearch.umn.edu/bitstream/212271/2/Schuster-Do%20labour%20standards%20benefit%20agro-industrial%20workers%20Evidence-629.pdf/ (Accessed: 12 April 2018).

Schwartz Taylor, M. and Taylor,K. (2018) 'Illegal Gold Mining Boom Threatens Cocoa Farmers (And Your Chocolate)', National Geographic, 6 March. Available at: https://news.nationalgeographic.com/2018/03/ghana-gold-mining-cocoa-environment/ (Accessed: 15 July 2018).

Scoones, I.(1998) *Sustainable rural livelihoods: A framework for analysis*. IDS Working Paper 72.Available at: https://opendocs.ids.ac.uk/opendocs/bitstream/handle/123456789/3390/Wp72.pdf?sequence=1&isAllowed=y/ (Accessed: 12 April 2018).

Scott-Smith, T. (2013) 'The least provocative path: an ANT lens on development project formation and dissolution', Working Paper No.3, Centre for Development Informatics, Institute for Development Policy and Management, SED

Scriven, M. (1999) 'The fine line between evaluation and explanation', *Research on Social Work Practice*, *9*(4), pp.521-524.

Sen, D. (2009) *From illegal to organic: Fair trade-organic tea production and women's political futures in Darjeeling, India*. PhD thesis. Rutgers University.

Sender, J., Oya, C., and Cramer, C. (2006) 'Women Working for Wages: Putting Flesh on the Bones of a Rural Labour Market Survey in Mozambique', *Journal of Southern African Studies* 32 (2), pp: 313-333.

Shreck, A. (2002) *Just bananas? A Fair Trade alternative for small-scale producers in the Dominican Republic*. PhD thesis. Colorado State University.

Smith, A.M. (2009) 'Evaluating the Criticisms of Fair Trade 1', *Economic Affairs*, *29*(4), pp.29-36.

Smith, J.A. and Todd, P.E. (2005) 'Does matching overcome LaLonde's critique of nonexperimental estimators?', . *Journal of econometrics*, *125*(1-2), pp.305-353.

Snapir, B., Simms, D.M. and Waine, T.W. (2017) 'Mapping the expansion of galamsey gold mines in the cocoa growing area of Ghana using optical remote sensing', *International Journal of Applied Earth Observation and Geoinformation*, *58*, pp. 225-233.

Staib, P.W. (2012) *Coffee and the countryside: Small farmers and sustainable development in Las Segovias de Nicaragua*. PhD thesis. The University of New Mexico.

Stame, N. (2004) 'Theory-based evaluation and types of complexity', *Evaluation*, *10*(1), pp.58-76.

Stanforth, C., M. (2009) *Networks of influence: Evaluating a fiscal reform e-governemnt project in Sri Lanka from an Actor-Network perspective*. PhD thesis, University of Manchester

Staricco, J.I., and Ponte, S. (2015) 'Quality regimes in agro-food industries: a regulation theory reading of Fair Trade wine in Argentina', *Journal of Rural Studies*, (38), pp. 65-76.

Stathers, T., and Gathuthi, C. (2013) *Poverty impact of social and environmental voluntary standard systems in Kenyan tea*. University of Greenwich: Natural Resources Institute. Available at: http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.702.645&rep=rep1&type=pdf/(Accessed: 12 April 2018)

Statista (2018a) *Market share of leading chocolate companies worldwide in 2016*. Available at:https://www.statista.com/statistics/629534/market-share-leading-chocolate-companies-worldwide/ (Accessed 15 July 2018)

Statista (2018b) *Market share of the leading chocolate companies in the United States in 2017*. Available at: https://www.statista.com/statistics/238794/market-share-of-the-leading-chocolate-companies-in-the-us/(Accessed 15 July 2018)

Stern, E., Stame, N., Mayne, J., Forss, K., Davies, R. and Befani, B. (2012) 'Broadening the range of designs and methods for impact evaluations', *Report of a study commissioned by the Department for International Development, London, UK.*

Sulaiman I., and Boachie-Danquah, B. (2017) *Investing in Ghana's Cocoa Processing Industry: Opportunities, Risks & The Competitive Advantage. Goodman.* Accra:AMC.

Sutton, S. (2014) *Voice, Choice and Governance: The Case of Tanzania's Fairtrade Co-operatives*. PhD thesis. Queen Mary, University of London.

Takane, T. (2000) 'Incentives embedded in institutions: the case of share contracts in Ghanaian cocoa production', *The Developing Economies*, *38*(3), pp.374-397.

Takane, T. (2002) *The cocoa farmers of Southern Ghana: Incentives, institutions, and change in Rural West Africa*. Chiba: Institute of Developing Economies Japan External Trade Organization

Teal, F., Zeitlin, A., Maamah, H.(2016) *Ghana Cocoa Farmers Survey 2004: Report to Ghana Cocoa Board.* Available at: http://www.gprg.org/pubs/reports/pdfs/2006-04-teal-zeitlin-maamah.pdf (Accessed 11 April 2019)

Tedeschi, G.A. (2008) 'Overcoming selection bias in microcredit impact assessments: a case study in Peru', *The Journal of Development Studies*, *44*(4), pp.504-518.

Tedeschi, G.A. and Carlson, J.A. (2013) 'Beyond the subsidy: Coyotes, credit and Fair Trade coffee', *Journal of international Development*, *25*(4), pp.456-473.

Terstappen, V., Hanson, L., and McLaughlin, D. (2013) 'Gender, health, labor, and inequities: a review of the fair and alternative trade literature', *Agriculture and Human Values*, 30(1), pp.21-39.

Thorp, R., Stewart, F. and Heyer, A. (2003)'When and how far is group formation a route out of chronic poverty?', *Staying Poor: Chronic Poverty and Development Policy Conference.* University of Manchester, Manchester, 7- 9 April 2003.

Tiffen, P. (2002) 'A chocolate-coated case for alternative international business models', *Development in Practice*, 12(3&4), pp. 383-397.

Tiffin, P., MacDonald, J., Maamah H., Osei-Opare F. (2004) 'From Tree-minders to Global Players: Cocoa Farmers in Ghana' in Carr, M. (eds) *Chains of Fortune: Linking Women Producers and Workers with Global Markets*. London: The Commonwealth Secretariat, pp.11-46.

Tilley, N. (2004) 'Applying theory-driven evaluation to the British Crime Reduction Programme: The theories of the programme and of its evaluations',.*Criminal Justice*, *4*(3), pp.255-276.

Todd, P.E. (2007)'Evaluating social programs with endogenous program placement and selection of the treated', in Schultz, T.P. and Strauss, J. (eds) *Handbook of development economicsVolume 4*. Oxford: Elsevier, pp.3847-3894

Torre, I., and Jones, B. (2014) *Cocoa-nomics explained: Unwrapping the chocolate industry.* Available at: http://edition.cnn.com/2014/02/13/world/africa/cocoa-nomics-explained-infographic/index.html (Accessed: 15 July 2018).

Trauger, A. (2014) 'Is Bigger Better? The Small Farm Imaginary and Fair Trade Banana Production in the Dominican Republic', *Annals of the Association of American Geographers*, 104(5), pp.1082- 1100.

Utting-Chamorro, K. (2005) Does fair trade make a difference? The case of small coffee producers in Nicaragua. *Development in Practice*, *15*(3-4), pp.584-599UTZ (2015). *Core Code of Conduct For Group and multi group certification. Version 1.1*. Available at: https://utz.org/wp-content/uploads/2015/12/EN_UTZ_Core-Code-Group_v1.1_2015.pdf (Accessed: 8 January 2018).

UTZ (2016) *Theory of Change.* Available at: https://utz.org/?attachment_id=13887 (Accessed 8 May 2018).

UTZ (2017a) *UTZ Theory of Change 2017*. Available at: https://utz.org/?attachment_id=13887 (Accessed: 27 March 2019).

UTZ (2017b) *Cocoa Statistics Report 2016*. Available at: https://utz.org/wp-content/uploads/2017/05/170515-COCOA-Statistics-Report-External-Version.pdf (Accessed: 8 January 2018).

UTZ (2018a) *Joining forces: UTZ and the Rainforest Alliance.* Available at https://utz.org/merger/#undefined (Accessed: 15 July 2018)

UTZ (2018b) 5 *things you need to know about mass balance*. Available at: https://utz.org/better-business-hub/sourcing-sustainable-products/6567/ (Accessed: 3 February 2018)

UTZ (2018c) *Mass Balance in cocoa*.Available at: https://utz.org/what-we-offer/certification/products-we-certify/cocoa/massbalance/(Accessed: 3 February 2018)

UTZ (2018d) *List of UTZ certified cocoa producers*. Available at: https://utz.org/?attachment_id=12594. (Accessed: 20 April 2018)

UTZ(2018e) *What's the difference between UTZ, Fairtrade and the Rainforest Alliance?* Available at:https://utz.org/better-business-hub/marketing-sustainable-products/whats-difference-utz-fairtrade-rainforest-alliance/ (Accessed: 15 July 2018)

Vagneron, I., and Roquigny, S. (2010) *What do we really know about the impact of fair trade? A synthesis*, Paris: PFCE.

Vaismoradi, M., Turunen, H., & Bondas, T. (2013) 'Content analysis and thematic analysis: Implications for conducting a qualitative descriptive study', *Nursing & Health Sciences*, 15(3), pp. 398-405.

Valkila, J., and Nygren, A. (2008) 'Impacts of Fair Trade-certification on Coffee Farmers, Cooperatives and Laborers, in Nicaragua', *Agriculture and Human Values*, 27(3), pp.321-333.

Van Meter, K.M. (1990) ‘Methodological and design issues: techniques for assessing the representatives of snowball samples’, *NIDA Research Monograph*, 98(51.40), pp. 31-43

Van Rijsbergen, B., Elbers, W., Ruben, R., and Njuguna, S.N. (2016) ‘The ambivalent impact of coffee certification on farmers' welfare: a matched panel approach for cooperatives in central Kenya’,*World Development*, 77, pp.277-292.

Vartotojai (2019) *How to recognize?* Available at: http://www.vartotojai.lt/en/fairtrade/what-is-fairtrade/labels (Accessed: 28 April 2019)

Vecchio, R. and Annunziata, A. (2015) ‘Willingness-to-pay for sustainability-labelled chocolate: an experimental auction approach’, *Journal of Cleaner Production*, *86*, pp.335-342.

Vella, F. (1998) ‘Estimating models with sample selection bias: a survey’, *Journal of Human Resources*, pp.127-169.

Victor, A.S., Gockowski, J., Agyeman, N.F. and Dziwornu, A.K. (2010) ‘Economic cost-benefit analysis of certified sustainable cocoa production in Ghana’, *3rd African Association of Agricultural Economists (AAAE) and 48th Agricultural Economists Association of South Africa (AEASA) Conference,* Cape Town,, 19-23 September, pp. 19-23.Available at:https://pdfs.semanticscholar.org/72cc/ce52ecb5a7f894008ea7a547c15ba0df520d.pdf/ (Accessed 13 December 2018)

Vigneri, M., Santos, P. (2008) *What Does Liberalization without Price Competition Achieve: The Case of Cocoa in Ghana*. Ghana Strategy Suport Program Background Paper 14, IFPRI. Available at: https://www.odi.org/sites/odi.org.uk/files/odi-assets/publications-opinion-files/3578.pdf/ (Accessed 13 December 2018)

Von Hagen, O., Manning, S. and Reinecke, J. (2010) ‘Sustainable sourcing in the food industry: global challenges and practices’, *Moderne Ernährung Heute*, 4, pp:1-9.

Walker, N. (2016) *Top 10 confectionery manufacturers in the world.* Available at: http://www.manufacturingglobal.com/lean-manufacturing/top-10-confectionery-manufacturers-world (Accessed 15 July 2018).

Walsh, J.M. (2004) *Fair Trade in the Fields: Outcomes for Peruvian Coffee Producers.* Master thesis. Massachusetts Institute Of Technology.

Weber, R.P. (1990) *Basic content analysis, Issue 49*.Newbury Park: Sage Publications, Inc. .

Weiss, C.H. (1997) Theory-based evaluation: Past, present, and future. *New directions for evaluation*, *1997*(76), pp.41-55.

Wengraf, T. and Chamberlayne, P. (2006) Interviewing for life-histories, lived situations and personal experience: The Biographic-Narrative Interpretive Method (BNIM). Available at: https://is.muni.cz/el/1423/podzim2014/SOC932/um/Wengraf_manual.pdf/ (Accessed 13 December 2018)

Wessel, M. and Quist-Wessel, P.F. (2015) 'Cocoa production in West Africa, a review and analysis of recent developments', *NJAS-Wageningen Journal of Life Sciences*, *74*, pp.1-7.

Westhorp, G., (2014) *Realist impact evaluation: an introduction*. London: Overseas Development Institute, pp.1-12.

White, H. (2008) 'Of probits and participation: The use of mixed methods in quantitative impact evaluation', *IDS bulletin,* 39(1), pp.98-109.

White, H. (2009) 'Theory-based impact evaluation: principles and practice', *Journal of development effectiveness*, *1*(3), pp.271-284.

Whitehead, R., J.(2017) *Barry Callebaut targets China's premium market with 'refreshed' range.* Available at https://www.foodnavigator-asia.com/Article/

2017/04/03/Barry-Callebaut-targets-China-s-premium-market-with-refreshed-range (Accessed 12 April 2018).

Williams, T. (2009) ‘An African Success Story: Ghana's Cocoa Marketing System’, IDS Working Paper 318, pp. 01-47.

Woods, D. (2003) ‘The tragedy of the cocoa pod: rent-seeking, land and ethnic conflict in Ivory Coast’, .*The Journal of Modern African Studies*, *41*(4), pp.641-655.

World Cocoa Conference (2012) *Abidjan Cocoa Declaration.* Abidjan, 23 November Available at: https://www.icco.org/about-us/international-cocoa-agreements/cat_view/57-world-cocoa-conference-2012-abidjan.html/ (Accessed: 12 December 2018).

Yin, R., K. (1981a) 'The Case Study Crisis: Some Answers'. *Administrative Science Quarterly*, 26 (1), pp. 58-65.

Yin, R.K. (1981b) ‘The case study as a serious research strategy’, *Knowledge,* 3(1), pp. 97-114.

Yin, R. K. (2013) *Case study research: Design and methods*. California: Sage publications.

Young, C., Sherman, N., P., Rose., T., H. (1981) *Cooperatives and Development: Agricultural Politics in Ghana and Uganda*. Madison: The University of Wisconsin Press.

Yu, D.(2017) *Chocolate confectionery contributes most to value sales of sustainable cocoa products: Euromonitor.* Available at: https://www.confectionerynews.com/Article/2017/06/29/Euromonitor-forecasts-value-sales-of-sustainable-cocoa-products (Accessed: 12 April 2018)

Zeitlin, A. (2018) *Ghana Cocoa Farmers Survey*. Available at: http://www.andrewzeitlin.com/data/gcfs (Accessed: January 18, 2018).

Appendix

Appendix 1:Selection determinants into SSC programmes (literature review)

Determinant	Significant Positive	Significant Negative
Land size/ land holding (ha)/ land property/ Crop area/ Crop area owned. Crop trees	Muriithi, Mburu and Ngigi, 2011 (Kenya, horticulture, GlobalGap) Milford, 2014 (Mexico, Coffee, Fairtrade) Parvathi and Waibel, 2016 (India, Black Pepper, Fairtrade) Fort and Ruben, 2009 (Peru, Bananas, Fairtrade) Francesconi and Ruben, 2014 (Tanzania, Coffee, Fairtrade) Subverie and Vagneron, 2013 (Madagascar, Horticulture, GlobalGap)	Asfaw, Mithöfer, and Waibel, 2007 (Kenya, horticulture, GlobalGap) Ruben and Fort, 2012 (Peru, Coffee, Fairtrade)
Non-crop land owned		Minten et al., 2015 (Ethiopia, Coffee, Various)
Land fertility	Asfaw, Mithöfer, and Waibel, 2007 (Kenya, horticulture, GlobalGap)	
Livestock	Asfaw, Mithöfer, and Waibel, 2007 (Kenya, horticulture, GlobalGap)	
Equipment/ Machinery/ Farm asset index	Asfaw, Mithöfer, and Waibel, 2007 (Kenya, horticulture, GlobalGap) Mueller and Theuvsen, 2015 (Guatemala, horticulture, GlobalGap)	
Irrigation access	Parvathi and Waibel, 2016 (India, Black Pepper, Fairtrade)	
Farm enterprises	Muriithi, Mburu and Ngigi, 2011 (Kenya, horticulture, GlobalGap)	
Off-farm income/ Non-farm income	Muriithi, Mburu and Ngigi, 2011 (Kenya, horticulture, GlobalGap)	Jena et al., 2012 (Ethiopia, Coffee, Fairtrade)

Determinant	Significant Positive	Significant Negative
Credit access	Parvathi and Waibel, 2016 (India, Black Pepper, Fairtrade) Jena et al., 2012 (Ethiopia, Coffee, Fairtrade)	
Radio use / owns a radio	Asfaw, Mithöfer, and Waibel, 2007 (Kenya, horticulture, GlobalGap) Milford, 2014 (Mexico, Coffee, Fairtrade)	
Age/ Age of household head	Ruben and Fort, 2012 (Peru, Coffee, Fairtrade) Minten et al., 2015 (Ethiopia, Coffee, Various)	
Years of Schooling/ Education/ Education of household head/ literacy	Asfaw, Mithöfer, and Waibel, 2007 (Kenya, horticulture, GlobalGap) Jena et al., 2012 (Ethiopia, Coffee, Fairtrade) Minten et al., 2015 (Ethiopia, Coffee, Various) Subverie and Vagneron, 2013 (Madagascar, Horticulture, GlobalGap) Van Rijsbergen et al. 2016 (Kenya, Coffee, UTZ & Fairtrade)	Parvathi and Waibel, 2016 (India, Black Pepper, Fairtrade) Fort and Ruben, 2009 (Peru, Bananas, Fairtrade)
Extension training	Muriithi, Mburu and Ngigi, 2011 (Kenya, horticulture, GlobalGap)	
Experience in crop production/ Farming experience	Jena et al., 2012 (Ethiopia, Coffee, Fairtrade) Van Rijsbergen et al. 2016 (Kenya, Coffee, UTZ & Fairtrade)	Mueller and Theuvsen, 2015 (Guatemala, horticulture, GlobalGap)
Exportation experience	Mueller and Theuvsen, 2015 (Guatemala, horticulture, GlobalGap)	
Changes in buyer/ intermediaries in the village	Subverie and Vagneron, 2013 (Madagascar, Horticulture, GlobalGap)	
Household size	Muriithi, Mburu and Ngigi, 2011 (Kenya, horticulture, GlobalGap)	Parvathi and Waibel, 2016 (India, Black Pepper, Fairtrade)
Household members working	Milford, 2014 (Mexico, Coffee, Fairtrade)	
Female household members	Asfaw, Mithöfer, and Waibel, 2007 (Kenya, horticulture, GlobalGap)	

Determinant	Significant Positive	Significant Negative
Female headed household	Van Rijsbergen et al. 2016 (Kenya, Coffee, UTZ & Fairtrade)	
Children household members		Asfaw, Mithöfer, and Waibel, 2007 (Kenya, horticulture, GlobalGap)
Road distance/ Distance to nearest paved road	Milford, 2014 (Mexico, Coffee, Fairtrade)	
Distance to processment point	Van Rijsbergen et al. 2016 (Kenya, Coffee, UTZ & Fairtrade)	
Distance from city centre/ nearest market/ Travel time to buyer	Muriithi, Mburu and Ngigi, 2011 (Kenya, horticulture, GlobalGap) Parvathi and Waibel, 2016 (India, Black Pepper, Fairtrade) Fort and Ruben, 2009 (Peru, Bananas, Fairtrade)	Minten et al., 2015 (Ethiopia, Coffee, Various) Van Rijsbergen et al. 2016 (Kenya, Coffee, UTZ & Fairtrade)
Transportation costs		Mueller and Theuvsen, 2015 (Guatemala, horticulture, GlobalGap)

Appendix 2: Interviews with industry informants

Industry/ institution	Position of interviewee	Interviewee Code	Year of interview	N of interviews
NGO A	International advisor for sustainable agriculture	Daniel	2016	1
NGO A	International advisor for sustainable agriculture	Daniel	2015	1
NGO B	Programme Manager	Derrick	2016	1
NGO B	Planning, Monitoring and Evaluation Manager	Henry	2016	1
NGO B	Senior Programme Officer	Alfred	2016	1
NGO B	Senior Programme Officer	Frank	2015	1
NGO B	Coordinator	Paul	2015	1
National aid agency	Head of Economic section	Rebecca	2015	1
UN Organisation	Forestry Management & Conversation Specialist	Julius	2016	1
Total aid actors				**9**
Auditing body A	Country coordinator	Maxwell	2016	1
Auditing body B	Auditor	Eric	2015	1
Auditing body C	Auditor	Patrick	2016	1
Private Consultant A	Executive Director	Edward	2016	1
Private Consultant A	Executive Director	Edward	2015	1
Private Consultant B	Consultant for certified POs and LBCs	Evans	2016	1
Standard Setter A	Country representation	Kofi	2016	1
Standard Setter B	Partnerships and member services manager	Kwasi	2016	1
Standard Setter B	Partnerships and member services manager	Kwasi	2015	1
Standard Setter C	Liaison officer	Emily	2016	1
Standard Setter D	Region Manager	Joel	2016	1
Total certification actors				**11**
Chocolate company A	Social responsibility programme manager	William	2016	1
Chocolate company A	Social responsibility programme manager	William	2015	1
Chocolate company B	Cocoa Life manager	Mark	2016	1

Industry/ institution	Position of interviewee	Interviewee Code	Year of interview	N of interviews
Chocolate company C	Head raw materials and sustainability	Bridget	2017	1
Cocoa trader A	Cocoa Sustainable Sourcing Manager	Richard	2016	1
Cocoa trader A	Cocoa Sustainable Sourcing Manager	Richard	2016	1
Multi-stakeholder industry institutions	Country coordinator	Victor	2015	1
LBC A	Sustainability programme manager	Sandra	2015	1
LBC B	sustainability/certification manager	Ibrahim	2016	1
LBC C	Special assistant to the MD	Collins	2016	1
LBC D	District Manager	Bernard	2016	1
LBC E	Regional Sustainability Officer	Alexander	2016	1
LBC F	CEO	Gideon	2016	1
LBC D	Communications Officer	Jacob	2016	1
Total cocoa-chocolate actors				**14**
COCOBOD A	Research, Monitoring & Evaluation Director		2015	1
COCOBOD B	Project Coordination Unit manager	Mike	2016	1
COCOBOD C	Cocoa Health and Extension Division manager	Felix	2015	1
COCOBOD D	Agricultural Extentionist	Elizabeth	2016	1
Total government actors				**4**
Research institute	Senior Research Fellow	Seth	2015	1
Total research actors				**1**
Asunafo North	PO Board	Adam	2015	1
Kukuom	PO Board	Rauf	2015	1
Suhum	PO Board	Benjamin	2015	1
Osino	PO Board	George	2015	1
Total POs				**4**
Total number of interviews				**43**

Appendix 3: Questionnaire used for structured interviews

Individual Question Sheet

1. Getting to know the farmer

1.1.Name (a) and Community (b)

1.2.Respondent's sex (1=male, 2=female)

1.3.What is your age? (Record in years)

1.4.What is the highest level of education that you have completed?

1=none, 2=primary, 3=Middle/JSS, 4=SSS/Tech/Com, 5=Post sec/Nursing/Poly/Train'g col. 6=Higher

1.5.What is your marital status?

1= single, 2=single parent, 3=married, 4=divorced, 5=widowed, 6=domestic partnership, 7=other

1.6.Including yourself, how many people live in your home – those who eat and sleep there regularly? (record number)?

1.7.What is your religion?

1.8.To which ethnic group do you belong?

1= Asante, 2=Akwapim, 3=Fanti, 4=Other Akan, 5=Ga-Adangbe, 6=Ewe, 7=Guan, 8=Nzema, 9=Hausa, 10=Dagomba, 11= Mamprusi, 12=Gonja, 13= Grusssi/Frafra, 14= Dagarti, 15=Kusasi, 16= Kassena-Nankani, 17=Konkomba, 18=Namumba, 19=Builsa, 20=Other (Specify)

1.9.Where you born here?

1= indigene (born here), 2=migrant (born here), 3= Not born here

1.10.If not born here, how long ago did you move to this place?

a. Years b. months

1.11.Where have you migrated from?

1= Ashanti, 2=B.Ahafo, 3=Central, 4=Eastern, 5=G,Accra, 6=Northern, 7=Upper East, 8=Upper West, 9=Volta, 10=Western, 11= Outside village (this district), 12=Outside district (this region)

2. Cocoa farming

2.1 How many cocoa farms do you cultivate? (Record number)

a. record number, b. record size in acres

2.2 How did you obtain the use of each farm?

1= inherited farm from father, 2=inherited farm form mother's family, 3= received farm as gift, 4= inherited farm from husband/wife, 5=purchased farm, 6= inherited land from father, 7=inherited land form mother's family, 8= received land as gift, 9= inherited land from husband/wife, 10=purchased land, 11= Abusa, 12= Abono, 13=Other sharecropping agreement (specify), 14= Farm is/was pledged, 15= allocated by government, 16= other (specify)

2.3 How many bags did each farm produce last year?

3. Labour and non-labour inputs

3.1 Do you have a sharecropper for any of these farms? (Record contractual arrangement for corresponding farms)

3.2 Did you use any household labour in the last 12 months for any of these farms?

(record tasks: 0=No, 1=land preparation, 2= planting, 3= Maintenance (Weeding), 4= Applying Inputs, 5= Harvesting

3.3 Did you employ any paid labour in the last 12 months?

(record tasks: 0=No, 1=land preparation, 2= planting, 3= Maintenance (Weeding), 4= Applying Inputs, 5= Harvesting

3.4 Did you use any of the following inputs in the last 12 months?

1=fertilizer, 2=insecticides, 3=spray machine, 4=other

4. Cocoa Marketing

4.1 Can you tell me the number of PCs you sold your cocoa to in the last crop season? (Record corresponding LBC)

4.2 Did any of these PCs provide any credit?

a. amount of credit b. use of credit

4.3 Did any of these PCs provide any inputs on credit?

4.4 Do you currently owe to any PC?

4.5 What price did you get last time from these PCs for each bag sold?

4.6 Are you participating in any certification programme?

a. Name of Programme b. Joined since (Year)

4.7 Can you tell me how/why you have joined this certification programme?

5. Non-Cocoa Income

5.1. Apart from cocoa do you have any other sources of income?

1=None, 2=Pension, 3=Other cash crops, 4= remittances, 5= help from other family members, 6= professional, 7= shop, 8=other no agric occupation.

Appendix 4: Protocol for life history interviews

1. Protocol for Oral Consent to be recorded:

   A. Explain the objective of the research.

   B. Explain the nature of the individual's requested participation.

   C. Read the following statements to the individual:

- You are under no obligation to participate in this research – your involvement should be completely voluntary. Do you understand?

- You are free to stop or leave the interview at any time and for any reason. Do you understand?

- We will anonymise all information you provide. Your identity will be hidden – there will be no links between the information and you. This is to protect your right to privacy. Do you understand?

- If we take any pictures of you, your home or your work environment, we will only use these pictures in future research reports or publications with your consent. Do you understand?

D. Ask the individual:

- Do you understand all of these statements? Do you have any questions about them?

- Do you agree to participate in the research on this basis?

2. Facilitation of life histories

Can you please tell me your life story. All the experiences and the events which were important for you (as a cocoa farmer) up to now.

- Start wherever you like
- Please take the time you need
- I'll just listen first, I will not interrupt
- I will just take some notes in case I have further questions for after you've finished telling me about it all.

3. Issues to explore

1. Family life: Marriages, deaths, children, loans and village collections
2. Economic life: inheritance and loans, acquisition of land and other assets.
3. Cocoa farming life: How cocoa farming started, how cocoa farm was acquired, upgrading and expansion strategies in terms of cocoa farming land; future plans regarding cocoa farming

Appendix 5: Interviews with farmers

	Name	Sex	Age	Schooling	Labour sellers farmers (Group A)/ Labour buyers (Group B)	Land entitlements	Certification Programme	
							Cocoa Life	Touton-PBC
	Aisha	F	27	Primary School	Sharecropper	No land entitlements	No	No
	Abdulai	M	29	No Schooling	Sharecropper	No land entitlements	No	No
	Mustapha	M	32	No Schooling	Sharecropper	No land entitlements	No	No
	Patrick	M	33	Junior High School	Sharecropper	No land entitlements	No	No
	Loretta	F	35	No Schooling	Sharecropper	No land entitlements	No	No
	Moses	M	37	No Schooling	Sharecropper	Abunu in process	No	Yes
	Kwasi	M	39	Junior High School	Sharecropper	Abunu in process	Yes	Yes
	Alhassan	M	39	No Schooling	Sharecropper	No land entitlements	Yes	No
	Dennis	M	41	Senior High School	Sharecropper	No land entitlements	No	No
	Josephine	F	42	No Schooling	Sharecropper's wife	Abunu in process	No	No
	Emelia	F	42	No Schooling	Sharecropper	Abunu in process	No	No
	Yvonne	F	50	No schooling	Ex-sharecropper	Owner (completed abunu)	Yes	No
	Anita	F	53	No Schooling	Ex-Sharecropper	Abunu in process	Yes	No
	Obed	M	55	Primary School	Sharecropper	Abunu in process	Yes	Yes
	Kwame	M	60	No Schooling	Sharecropper	Owner (completed abunu)	Yes	No
Farm Owners (Group	Kofi	M	48	No schooling	Family labour	Owner (completed abunu)	Yes	No

	Name	Sex	Age	Schooling	Labour sellers farmers (Group A)/ Labour buyers (Group B)	Land entitlements	Certification Programme	
							Cocoa Life	Touton-PBC
Farm Owners (Group B)	Madia	F	33	Junior High School	Family labour	Owner's wife	No	No
	King	M	45	Junior High School	N/A	Owner (inheritance-land on press)	Yes	No
	Owusu	M	58	Junior High School	Family labour	Owner (inheritance)	Yes	Yes
	Nora	F	38	Primary school	Family labour	Abunu in process	Yes	No
	Ebenezer	M	55	Junior High School	Sharecropping	Owner (completed abunu)	No	Yes
	Constance	F	54	Junior High School	Sharecropping	Owner (inheritance & purchase)	Yes	No
	Christian	M	53	Junior High School	Sharecropping	Owner (inheritance)	Yes	Yes
	Lisa	F	34	Junior High School	Family labour	Owner's wife & abut in process	Yes	Yes
	Clement	M	43	Junior High School	Shareropping	Owner (inheritance, purchase, Abono)	Yes	No
	Ama	F	50	No schooling	Sharecropping	Owner's wife	Yes	No
	Joseph	M	56	Junior High School	Sharecropping	Owner (completed abunu)	Yes	Yes
	Solomon	M	60	Junior High School	Sharecropping	Owner (inheritance)	Yes	No
	Angela	F	53	Junior High School	Family labour	Owner (inheritance)	Yes	No
	Felix	M	62	Junior High School	No use of labour	Owner (inheritance)	No	No

Appendix 6: List of interviews informing the content analysis

Actor category	Type of institution	Number of interviews
Cocoa & chocolate industry	Chocolate manufacturers	1
	Cocoa processors and traders	1
	Multi-stakeholder industry institutions	1
	LBCs	4
	Cocobod	2
Aid industry	NGOs	5
	UN	1
Certification industry	Standard Setters	3
	Private consultants	1
Total		19

Appendix 7: Example of coding process for the content analysis

Meaning unit	**Condensed meaning unit**	**Code**	**Sub-category**	**Category**
“They concentrated in the areas where they could have more cocoa. This district produces more cocoa.	Interest in areas with more cocoa	Local cocoa production capacity	Cocoa production volumes	Volumes
“There was a bush fire, so this is how come they lost a to of cocoa, but now they are rejuvenating. So we don't have much cocoa here. So it does not make business sense. “	Young farms not fully productive	Trees too young	Cocoa production volumes	Volumes
“LBCs look where they can get big groups of farms, where they can get a lot of beans, a lot of farms to operate.”	Big groups of farms together	Concentration of farms	Concentration of cocoa volumes	Volumes
“They set the projects where they think they can get the cocoa volumes. So in terms of placement, I would say it depends on their [sourcing] capacity or strength”	Sourcing capacity or strength	LBC capacity to source cocoa volumes	Capacity to source volumes	Volumes
“And for the private sector, we realised that their main focus was first and foremost on where they can achieve the highest or the biggest volumes, where the farmers were committed, because you know the competition is so much”	Farmer’s commitment to beat competition	Sourcing capacity & farmers’ loyalty	Capacity to source volumes	Volumes

Meaning unit	**Condensed meaning unit**	**Code**	**Sub-category**	**Category**
“Programme placement depends on volume expectations. Cargill, or any other buying company sets targets for volumes, i.e. 20,000 of certified beans. The buyer will guarantee selling these beans as certified, the LBC will chose areas that can produce these volumes”.	Production and sourcing capacity needs to match demand for certified beans	LBC capacity to match volumes to demand	Capacity to source volumes	Volumes

Appendix 8: Description of variables (access to Kuapa Kokoo)

Variable	Definition and measurement
Dependent Variable	
Kuapa Kokoo access	1= if farmer has access to Kuapa Kokoo, 0=if not
Cocoa sold (kg)	Kgs of cocoa sold during the previous 12 months
Area of cocoa plot (ha)	Total area of land used for cocoa farming (ha)
N of buyers	Number of LBCs the farmer sold the cocoa to in the last crop season
N of LBCs in village	Number of LBCs operating in the village (excluding Kuapa Kokoo)
Years in village	Years of residence of household head in the village
Savings (Yes:1)	1= if farmer saved money in the last 12 months for planting material and/or new equipment, 0= if not
Years of schooling	Household head years of schooling (years)
Household size	Number of household members
Adult household labour (days)	Number of adult household members labour days per year (days)
Caretaker (Yes:1)	1= if the farmer has a sharecropper, 0= if not
Non cocoa income (Yes:1)	1= if household has other sources of income, 0= if not
N of Livestock (sheep & goats)	Number of sheep and goats owned by the farmer
Sex (Male:1)	1= if household head is male, 0=if household head is female
Child labour (days)	Number of child labour days per year (days)

Appendix 9:Patterns of missing values (access to Kuapa Kokoo).

The effect of missing data on qualitative analysis can be serious, particularly if the omission of data is not random but systematic (Dong and Peng, 2013). For this reason, patterns of missing data were investigated in order to assert whether data were missing in a systematic way and therefore posing a validity threat to the analysis. Following Humphries (no date) the questionnaire used by the GCFS was examined to assert whether the variables with the most missing values (i.e. cocoa sold; adult household work; non-cooca income) were linked to any skip pattern in the questionnaire. It was concluded that this was not the case. Moreover the patterns of missing data were investigated in State using the command mvpatterns. This showed that most observations w miss data on only one variable, with only 9 observations missing data on two variables (different combinations). Finally, data were visually inspected to explore whether there were any links between missing observations and other variables of interest (i.e. access to Kuapa Kokoo, farm size, gender, etc.). Again, no systematic pattern was detected. Therefore, the author concludes that data are missing at random and therefore pose no validity risk to the analysis.

Appendix 10: Descriptive statistics, by district (access to Kuapa Kokoo)

Descriptive statistics, Ashanti

	Ashanti				
	Obs	Mean	St.dev	Min	Max
Cocoa sold (kg)	110	1044.927	1072.658	30	5000
Area of cocoa plot (ha)	118	4.936	4.392	0.180	27.924
N of buyers	118	1.381	0.5534	1	3
Number of LBCs in village	118	2.661	1.322	1	6
Years in village	118	49.042	19.922	4.000	85.000
Savings (Yes:1)	118	0.381	0.4877	0	1.000
Years of schooling	118	6.746	4.946	0.000	15.000
Household size	118	7.593	2.756	2.000	13.000
Adult household labour (days)	111	78.98	97.43	0.000	448
Caretaker (Yes:1)	117	0.3932	0.4905	0.000	1.000
Non cocoa income (Yes:1)	104	0.923	0.267	0.000	1.000
N of Livestock (sheep & goats)	118	3.016	7.284	0	55
Sex (Male:1)	117	0.795	0.406	0.000	1.000
Child labour (days)	118	6.245	28	0.000	254

Descriptive statistics, Brong Ahafo

	Brong Ahafo				
	Obs	Mean	St.dev	Min	Max
Cocoa sold (kg)	98	1003.857	1008.723	62.5	5750
Area of cocoa plot (ha)	111	5.794	5.809	0.135	36.827
N of buyers	111	1.387	0.6898	1	6
Number of LBCs in village	111	2.685	1.321	1	6
Years in village	109	34.073	20.185	2.000	98.000
Savings (Yes:1)	110	0.3727	0.4857	0.000	1.000

Descriptive statistics, Brong Ahafo

	Brong Ahafo				
	Obs	Mean	St.dev	Min	Max
Years of schooling	110	4.664	4.884	0.000	14.000
Household size	111	6.973	2.798	1.000	13.000
Adult household labour (days)	108	87.40	0.000	576	262
Caretaker (Yes:1)	111	0.1622	0.3702	0.000	1.000
Non cocoa income (Yes:1)	107	0.869	0.338	0.000	1.000
N of Livestock (sheep & goats)	111	5.828	9.224	0	46
Sex (Male:1)	111	0.829	0.378	0.000	1.000
Child labour (days)	111	11.45	35,05	0.000	320

Descriptive statistics, Western Region

	Western				
	Obs	Mean	St.dev	Min	Max
Cocoa sold (kg)	231	1500.531	1722.488	5	11875
Area of cocoa plot (ha)	263	7.036	6.380	0.275	40.065
N of buyers	263	1.513	0.775	1	5
Number of LBCs in village	263	3.639	1.385	1	6
Years in village	262	35.992	17.922	1.000	90.000
Savings (Yes:1)	263	0.5323	0.4999	0.000	1.000
Years of schooling	262	7.279	4.272	0.000	16.000
Household size	263	6.426	2.493	1.000	14.000
Adult household labour (days)	261	83.81	122.13	0.000	786
Caretaker (Yes:1)	261	0.2644	0.4418	0.000	1.000
Non cocoa income (Yes:1)	255	0.819	0.385	0.000	1.000
N of Livestock (sheep & goats)	263	4.961	10.476	0	80
Sex (Male:1)	263	0.847	359794	0.000	1.000
Child labour (days)	262	7.85	24.8	0	198

Appendix 11: Mean characteristics by access status, Ashanti region

Mean characteristics by access status, Ashanti

		Non-access		Access			
	Obs	Mean	St.dev	Mean	St.dev	T-test	p-value
Cocoa sold (kg)	110	746.2	903.202	1132.79	1107.06	-2.296**	0.0217
Ha of cocoa plot	118	5.024	4.629	4.91	4.349	-0.192	0.8480
N of buyers	118	1.115	0.326	1.456	0.58	-2.83***	0.0047
N of LBCs in village*	118	1.5	0.7616	1.9891	1.2623	-1.547	0.1219
Years in village	118	41.846	19.847	51.076	19.573	-2.219**	0.0265
Savings (Yes:1)	118	0.3846	0.496	-0.3804	0.488	0.0015	0.969
Years of schooling	118	7.115	5.1948	6.641	4.898	0.101	0.9197
Household size	118	7.5	3.228	7.62	2.63	-0.036	0.9713
Adult household labour (days)	111	41.956	47.278	88.659	104.78	-1.621	0.1050
Caretaker (Yes:1)	117	0.4615	0.5084	0.374	0.4864	0.655	0.418
Non cocoa income (Yes:1)	104	0.9545	0.213	0.9146	0.2811	0.3891	0.533
N of Livestock (sheep & goats)	118	4.7692	6.9242	2.5217	7.3432	2.411**	0.0159
Sex (Male:1)	117	0.84	0.374	0.7826	0.415	0.397	0.529
Child labour (days)	118	0.038	12.8077	7.152	30.976	-1.037	0.2997

* Excludes Kuapa Kokoo / Note: For the Wilcoxon-Mann-Whitney test, test statistic is z-score./*** p<0.01, ** p<0.05, * p<0.1

Appendix 12: Mean characteristics by access status, Brong Ahafo region

Mean characteristics by access status, Brong Ahafo

		Non-access		Access			
	Obs	Mean	St.dev	Mean	St.dev	T-test	p-value
Cocoa sold (kg)	98	888.6724	794.281	1170.87	1249.14	-0.977	0.329
Ha of cocoa plot	111	5.365	5.315	6.498	6.545	-1.290	0.197
N of buyers	111	1.304	0.523	1.524	0.89	-1.418	0.156
N of LBCs in village*	111	2.0579	0.8555	2.7143	1.3119	-2.545***	0.0109
Years in village	109	31.955	19.542	37.585	20.979	-1.392	0.164
Savings (Yes:1)	110	0.3478	0.4797	0.415	0.499	0.4910	0.483
Years of schooling	110	3.1176	4.389	7.166	4.643	-4.116***	0.000
Household size	111	6.3188	2.887	8.048	2.295	-3.04***	0.002
Adult household labour (days)	108	92.651	109.429	109.357	113.368	-1.163	0.245
Caretaker (Yes:1)	111	0.1159	0.3225	0.2381	0.4311	2.867*	0.090
Non cocoa income (Yes:1)	107	0.8261	0.3818	0.9474	0.226	3.1695**	0.075
N of Livestock (sheep & goats)	111	6.4782	10.2808	4.7619	7.1493	0.378	0.706
Sex (Male:1)	111	0.768	0.425	0.928	0.261	4.7379**	0.030
Child labour (days)	111	9.579	20.38	14.524	50.906	0.561	0.5746

* Excludes Kuapa Kokoo /Note: For the Wilcoxon-Mann-Whitney test, test statistic is z-score./ *** p<0.01, ** p<0.05, * p<0.1

Appendix 13: Mean characteristics by access status, Western region

Mean characteristics by access status, Western region

		Non-access		Access			
	Obs	Mean	St.dev	Mean	St.dev	T-test	p-value
Cocoa sold (kg)	231	1444.836	1638.86	1540.85	1785.57	-1.06	0.289
Ha of cocoa plot	263	5.9698	5.9017	7.8394	6.6237	-3.46***	0.005
N of buyers	263	1.3894	0.6187	1.6067	0.8662	-1.8*	0.0718
N of LBCs in village*	263	2.7079	1.1777	3.34	1.0857	-4.598***	0.0000
Years in village	262	37.1504	18.6036	35.1141	17.3989	0.844	0.3987
Savings (Yes:1)	263	0.5664	0.4978	0.5067	0.5016	0.9228	0.337
Years of schooling	262	6.4107	4.6159	7.9266	3.8861	-2.471**	0.0135
Household size	263	6.1504	2.515	6.6333	2.4643	-1.714*	0.0866
Adult household labour (days)	261	85.0536	142.998	82.88	104.364	-0.999	0.3176
Caretaker (Yes:1)	261	0.2212	0.4169	0.2973	0.4586	1.9060	0.167
Non cocoa income (Yes:1)	255	0.8125	0.3921	0.8252	0.3811	0.0682	0.794
N of Livestock (sheep & goats)	263	4.8584	8.1458	5.04	11.9618	1.978**	0.0480
Sex (Male:1)	263	0.8495	0.3591	0.8467	0.3615	0.0042	0.948
Child labour (days)	262	10.3125	29.2149	6.0067	20.8145	1.582	0.1137

* Excludes Kuapa Kokoo /Note: For the Wilcoxon-Mann-Whitney test, test statistic is z-score./*** p<0.01, ** p<0.05, * p<0.1

Appendix 14: Results of Shapiro Will test (access to Kuapa Kokoo)

Variable	Obs	W	V	z	Prob>z
Cocoa sold (kg)	439	0.69002	92.759	10.825	0.00000
Area of cocoa plot (ha)	492	0.74058	86.007	10.700	0.00000
N of buyers	492	0.92953	23.362	7.569	0.00000
N of LBCs in village*	492	0.98641	4.506	3.616	0.00015
Years in village	489	0.98191	5.965	4.289	0.00000
Years of schooling	490	0.90054	32.854	8.387	0.00000
Household size	492	0.99232	2.547	2.246	0.01235
Adult household labour (days)	480	0.72648	88.689	10.762	0.00000
Livestock	492	0.71877	93.239	10.894	0.00000
Child labour (days)	491	0.49777	166.204	12.281	0.00000

*** Excludes Kuapa Kokoo**

Appendix 15: Statistically non-significant results (access to Kuala Kokoo)

Dependent variable: Farmer has access to Kuapa Kokoo (1=yes)								
	Full Sample		Ashanti		Brong Ahafo		Western	
	(1)		(2)		(3)		(4)	
	Coeff	AME	Coeff	AME	Coeff	AME	Coeff	AME
Cocoa sold (kg)	-2.88e-05	-9.90e-06	0.00017	3.57e-05	-0.000204	-4.67e-05	-3.28e-05	-1.08e-05
	(6.41e-05)	(2.20e-05)	(0.0002)	(4.53e-05)	(0.000230)	(5.18e-05)	(7.92e-05)	(2.60e-05)
Ha of cocoa plot	0.00760	0.00261	-0.0720	-0.0148	-0.0220	-0.00503	0.0257	0.00846
	(0.0153)	(0.00524)	(0.0484)	(0.00988)	(0.0292)	(0.00657)	(0.0209)	(0.00681)
Savings (Yes: 1)	-0.0640	-0.0220	-0.152	-0.0314	0.639	0.146	-0.288	-0.0950
	(0.142)	(0.0489)	(0.360)	(0.0752)	(0.430)	(0.0948)	(0.197)	(0.0640)
Non cocoa income (Yes:1)	0.223	0.0766	-0.500	-0.103	0.388	0.0887	0.220	0.0724
	(0.202)	(0.0693)	(0.592)	(0.124)	(0.619)	(0.138)	(0.250)	(0.0819)
Child labour (days)	-0.000903	-0.000311	0.00041	8.52e-05	0.00796	0.00182	-0.00309	-0.00102
	(0.00229)	(0.000788)	(0.0142)	(0.00293)	(0.00645)	(0.00149)	(0.00351)	(0.00115)
Observations	396	396	92	92	87	87	217	217
Pseudo R^2	0.1086		0.2528		0.3876		40.04	
Wald chi^2	56.39		27.17		42.31		40.04	
Prob>chi^2	0.0000		0.0183		0.0001		0.0003	
% correctly predicted	65.66%		83.70%		81.61%		70.05%	

* Excludes Kuapa Kokoo. Note: Robust standard errors in parentheses for Probit Coeff. Standard errors in parentheses for Predicted. prob. *** p<0.01, ** p<0.05, * p<0.1

Appendix 16: SSC programmes by cocoa district and certification scheme

Region	Cocoa District	Fairtarde	Rainforest Alliance	Utz	Total
Ashanti	Agona	Kuapa Kokoo			1
	Ampenim	Kuapa Kokoo			1
	Antoakrom	Kuapa Kokoo; Cooperative Amansie West		Unicom Commodities Ghana Ltc	3
	Bekwai	Kuapa Kokoo		Agro Ecom	2
	Effiduase	Kuapa Kokoo			1
	Juaso	Kuapa Kokoo		PBC & Touton	2
	Konongo	Kuapa Kokoo		Kuapa Kokoo	2
	Tepa	Kuapa Kokoo		Agro Ecom; Kokoo pa & FEDCO	3
	Mankranso	Kuapa Kokoo		Agro Ecom	2
	New Edubiase	Kuapa Kokoo		Agro Ecom; Unicom Commodities Ghana Ltc	3
	Nkawie	Kuapa Kokoo	Yara Glover	Cargill; PBC & Touton ; Kokoo pa & FEDCO	7
	Nsokote	Kuapa Kokoo		PBC & Touton	2
	Nyinahin	Kuapa Kokoo			1
	Obuasi	Kuapa Kokoo	Conservation Alliance	Agro Ecom; Agro Ecomm & AA; PBC & Touton	5
	Offinso	Kuapa Kokoo		PBC & Touton (2); Kuapa Kokoo	4
Brong Ahafo	Asumura	Kuapa Kokoo			1
	Dormaa	Kuapa Kokoo			1

Region	Cocoa District	Fairtarde	Rainforest Alliance	Utz	Total
	Goaso/Mim	Kuapa Kokoo; Cooperative Asuanfo North		PBC & Touton	3
	Hwidiem			Kokoo pa & FEDCO	1
	Kasapin	Kuapa Kokoo		PBC & Touton	2
	Kukuom	Kuapa Kokoo			1
	N'kwanta				0
	Sunyani			Agro Ecom & AA; PBC & Touton	2
	Sankore	Kuapa Kokoo			1
Central	Asikuma	Kuapa Kokoo		Agro Ecom & AA; Agro Ecom	3
	Assin Breku	Kuapa Kokoo			1
	Cape Coast	Kuapa Kokoo	Conservation Alliance		2
	Assin Fosu	Kuapa Kokoo	Olam & Conservation Alliance; Conservation Alliance	Agro Ecom & AA; Mars, GIZ & Agro-Eco	5
	Nyinase	Kuapa Kokoo			1
	Twifo Praso	Kuapa Kokoo		Unicom Commodities Ghana Ltc	2
	Ag. Swear	Kuapa Kokoo			1
Eastern	Achiase	Kuapa Kokoo			1
	Asamankese	Kuapa Kokoo; Cooperative West Akim		Agro Ecom	3
	Kade				0
	Kibi/ Anyinam	Kuapa Kokoo; Cooperative Fanteakwa			2
	K'dua/Tafo	Kuapa Kokoo; Cooperative New Juaben			

Region	Cocoa District	Fairtarde	Rainforest Alliance	Utz	Total
	Nkawkaw	Kuapa Kokoo		Agro Ecom	
	Akim oda	Kuapa Kokoo		Agro Ecom	2
	Ak. Akoase				0
	Ak. Ofoase	Kuapa Kokoo			1
	Suhum	Kuapa Kokoo; Yayra Glover & Agro-Eco; Cooperative Suhum		Agro Ecom (2); Yayra Glover	6
Western North	Adabokrom	Kuapa Kokoo			1
	Akontombra	Kuapa Kokoo			1
	S/Anhwiaso			Cargill	1
	Asawinso	Kuapa Kokoo		Cargill	2
	Asempaneye	Kuapa Kokoo			1
	B/Nkwanta	Kuapa Kokoo		PBC & Touton	2
	Debiso	Kuapa Kokoo			1
	Essam		Olam & Conservation Alliance; Conservation Alliance		1
	Fosukrom	Kuapa Kokoo			1
	Bodi	Kuapa Kokoo			1
	Juabeso	Kuapa Kokoo	Olam & Conservation Alliance; Conservation Alliance		2
	S/Wiaso	Kuapa Kokoo	Olam & Conservation Alliance; Conservation Alliance	Cargill ; Olam	2
	S/Bekwai	Kuapa Kokoo		Cargill	2
	S/Kaase				0
Western South	Ag. Amemfi	Kuapa Kokoo			1

Region	Cocoa District	Fairtarde	Rainforest Alliance	Utz	Total
	Asakragwa	Kuapa Kokoo		Mars, GIZ & Agro-Eco; Unicom Commodities Ghana Ltc; FEDCO	4
	Bogoso	Kuapa Kokoo		Unicom Commodities Ghana Ltc	2
	Diaso	Kuapa Kokoo			1
	Dunkwa	Kuapa Kokoo		Unicom Commodities Ghana Ltc	2
	Enchi	Kuapa Kokoo			1
	Dadieso	Kuapa Kokoo			1
	M/Amanfi	Kuapa Kokoo		Unicom Commodities Ghana Ltc	2
	Samreboi	Kuapa Kokoo		Unicom Commodities Ghana Ltc	2
	Tarkwa	Kuapa Kokoo			1
	Takoradi	Cooperative Mpohor wassa	Olam & Conservation Alliance		2
	W/ Akropong	Kuapa Kokoo		Unicom Commodties Ghana Ltd	2
Volta	Hohoe				0

Appendix 17: Shapiro Will test for cocoa volumes and LBC presence

Variable	Obs	W	V	z	Prob>z
Average cocoa volumes purchased between 2010-2015 (tons) by cocoa district	68	0.87952	7.243	4.299	0.00001
Number of LBCs by cocoa district	68	0.99305	0.418	-1.894	0.97086
Number of certification programmes by cocoa district	68	0.88746	6.766	4.151	0.00002

Appendix 18: Description of variables (Kuapa Kokoo membership)

Variable	Definition and measurement
Dependent Variable	
Kuapa Kokoo membership	1= if member of Kuapa Kokoo, 0=if not a member
Independent Variables	
Area of cocoa plot (ha)	Total area of land used for cocoa farming (ha)
Owned land/total land (%)	Percentage of land owned over total land used (%)
Age	Household head age (years)
Sex (Male:1)	1= if household head is male, 0=if household head is female
Years of schooling (n)	Household head years of schooling (years)
Household labour contribution (days)	Number of household labour days per year (days)
Caretaker (Yes:1)	1= if the farmer has a sharecropper, 0= if not
Non cocoa income (Yes:1)	1= if household has other sources of income, 0= if not
Livestock (n)	Number of sheep and goats owned by the farmer
Farming equipment (Yes:1)	1= if farmer owns tree felling equipment , 0= if not
Savings (Yes:1)	1= if farmer saved money in the last 12 months for planting material and/or new equipment, 0= if not
Loans (Yes:1)	1= if farmer has ever borrowed money, 0=if not
Years in village	Years of residence of household head in the village
N of buyers	Number of LBCs the farmer sold the cocoa to in the last crop season

Appendix 19: Descriptive statistics(Kuapa Kooko membership)

	Full sample				
	Obs	Mean	St.dev	Min	Max
Area of cocoa plot (ha)	284	6.6924	6.093	0.135	40.065
Owned land as a share of total land (%)	284	0.87	0.28	0	1
Age	282	50.75	14.70	22	98
Household head sex (Male:1)	284	0.84	0.37	0	1
Years of schooling (n)	284	7.4	4.37	0	16
Household labour contribution (days)	280	94.24	111.35	0	642
Caretaker (Yes:1)	281	0.313	0.465	0	1
Non cocoa income (Yes:1)	263	0.87	0.336	0	1
Livestock (n)	284	4.18	10.07	0	80
Farming equipment (Yes:1)	280	0.125	0.33	0	1
Savings (Yes:1)	283	0.45	0.5	0	1
Loans (Yes:1)	282	0.54	0.50	0	1
Years in village	282	40.68	19.98	1	98
N of buyers	284	1.55	0.79	1	6

Appendix 20: Descriptive statistics, by region (Kuapa Kooko membership)

	Obs	Ashanti			
		Mean	St.dev	Min	Max
Area of cocoa plot (ha)	92	4.68	4.25	0.18	27.92
Owned land/total land (%)	92	0.88	0.27	0	1
Age	91	59.1	14.89	24	81
Sex (Male:1)	92	0.80	0.40	0	1
Years of schooling (n)	92	6.84	4.82	0	14
Household labour contribution (days)	88	98.16	118.61	0	621
Caretaker (Yes:1)	91	0.37	0.49	0	1
Non cocoa income (Yes:1)	82	0.91	0.29	0	1
Livestock (n)	92	2.6	7.57	0	55
Farming equipment (Yes:1)	92	0.081	0.27	0	1
Savings (Yes:1)	92	0.38	0.49	0	1
Loans (Yes:1)	91	0.45	0.5	0	1
Years in village	92	50.88	19.87	4	81
N of buyers	92	1.45	0.59	1	3

	Brong Ahafo				
	Obs	Mean	St.dev	Min	Max
Area of cocoa plot (ha)	42	6.88	6.77	0.135	36.82
Owned land/total land (%)	42	0.83	0.32	0	1
Age	42	51.84	15	29	98
Sex (Male:1)	42	0.95	0.23	0	1
Years of schooling (n)	42	7.34	4.69	0	14
Household labour contribution (days)	42	114	116.84	0	510
Caretaker (Yes:1)	42	0.24	0.43	0	1
Non cocoa income (Yes:1)	38	0.94	0.24	0	1

	Brong Ahafo			
	Obs	Mean	St.dev	Min	Max
Livestock (n)	42	5.26	7.34	0	25
Farming equipment (Yes:1)	40	0.053	0.23	0	1
Savings (Yes:1)	41	0.42	0.5	0	1
Loans (Yes:1)	42	0.5	0.50	0	1
Years in village	41	38.76	21.3	3	98
N of buyers	42	1.53	0.92	1	6

	Western				
	Obs	Mean	St.dev	Min	Max
Area of cocoa plot (ha)	150	7.68	6.15	1.011	37.23
Owned land/total land (%)	150	0.88	0.26	0	1
Age	149	45.35	12.22	22	83
Sex (Male:1)	150	0.85	0.35	0	1
Years of schooling (n)	150	8.05	3.8	0	16
Household labour contribution (days)	150	84.2	101.86	0	642
Caretaker (Yes:1)	148	0.30	0.46	0	1
Non cocoa income (Yes:1)	143	0.84	0.37	0	1
Livestock (n)	150	5.14	12.17	0	80
Farming equipment (Yes:1)	148	0.17	0.37	0	1
Savings (Yes:1)	150	0.52	0.50	0	1
Loans (Yes:1)	149	0.59	0.49	0	1
Years in village	149	34.71	17.27	1	81
N of buyers	150	1.58	0.86	1	5

Appendix 21: Mean characteristics by membership status, Ashanti region

		Non- member			Member		T-test
		Obs	Mean	St.dev	Mean	St.dev	
(1)	Area of cocoa plot (ha)	92	6.077	5.357	3.639	2.343	2.523**
(2)	Owned land/total land (%)	92	0.902	0.242	0.855	0.311	0.166
(3)	Age	91	61.687	12.988	56.465	15.881	1.353
(4)	Sex (Male:1)	92	0.8125	0.394	0.75	0.438	0.527
(5)	Years of schooling (n)	92	7.083	4.889	6.159	4.917	0.950
(6)	Household labour contribution (days)	88	126.13	136.878	63.286	82.908	2.128**
(7)	Caretaker (Yes:1)	91	0.458	0.503	0.279	0.454	3.114*
(8)	Non cocoa income (Yes: 1)	82	0.952	0.215	0.875	0.335	1.571
(9)	Livestock (n)	92	2.79	8.939	2.227	5.157	-0.515
(10)	Farming equipment (Yes:1)	92	0.021	0.144	0.159	0.369	5.527**
(11)	Savings (Yes:1)	92	0.458	0.503	0.295	0.461	2.584*
(12)	Loans (Yes:1)	91	0.479	0.505	0.465	0.505	0.018
(13)	Years in village	92	54.958	18.355	46.84	20.18	1.901*
(14)	N of buyers	92	1.3125	0.55	1.614	0.579	-2.731***

Note: For the Wilcoxon-Mann-Whitney test, test statistic is z-score.

*** p<0.01, ** p<0.05, * p<0.1

Appendix 22: Mean characteristics by membership status, Western region

			Non- member		Member		T-Test
		Obs	Mean	St.dev	Mean	St.dev	
(1)	Ha of cocoa plot	150	7.040	5.54	9.70	8.42	-1.633
(2)	Owned land/total land (%)	150	0.88	0.265	0.894	0.238	-0.088
(3)	Age	149	44.028	11.22	49.2	13.811	-2.04**
(4)	Sex (Male:1)	150	0.886	0.32	0.755	0.435	4.11**
(5)	Years of schooling (n)	150	7.809	3.821	8.2	4.065	-0.608
(6)	Household labour contribution (days)	150	75.61	98.568	119.87	120.09	-2.42**
(7)	Caretaker (Yes:1)	148	0.257	0.439	0.395	0.495	2.789*
(8)	Non cocoa income (Yes: 1)	143	0.851	0.357	0.762	0.431	1.65
(9)	Livestock (n)	150	4.381	10.186	6.577	15.357	-0.824
(10)	Farming equipment (Yes:1)	148	0.125	0.332	0.25	0.438	3.556*
(11)	Savings (Yes:1)	150	0.524	0.502	0.466	0.504	0.4115
(12)	Loans (Yes:1)	149	0.596	0.493	0.555	0.50	0.2131
(13)	Years in village	149	32.144	16.904	41.97	16.743	-3.1***
(14)	N of buyers	150	1.419	0.757	2.044	0.952	-4.4***

Note: For the Wilcoxon-Mann-Whitney test, test statistic is z-score.

*** p<0.01, ** p<0.05, * p<0.1

Appendix 23: Shapiro Will test (Kuapa Kooko membership)

Variable	Obs	W	V	z	Prob>z
Area of cocoa plot (ha)	284	0.74208	52.346	9.266	0.00000
Owned land/total land (%)	284	0.89581	21.145	7.144	0.00000
Age	282	0.96496	7.066	4.576	0.00000
Years of schooling (n)	284	0.89966	20.365	7.056	0.00000
Household labour contribution (days)	280	0.78412	43.268	8.814	0.00000
Livestock (n)	284	0.64175	72.708	10.035	0.00000
Years in village	282	0.97521	5.000	3.767	0.00008
N of buyers	284	0.91208	17.843	6.746	0.00000

Appendix 24: Statistically non-significant results (Kuapa Kooko membership)

Dependent variable:	Farmer is affiliated to Kuapa Kokoo (1=yes)					
	Full Sample (1)		Ashanti (2)		Western (3)	
	Coeff	AME	Coeff	AME	Coeff	AME
Owned land/total land (%)	-0.0460	-0.0148	0.251	0.0677	-0.424	-0.108
	(0.330)	(0.106)	(0.625)	(0.170)	(0.521)	(0.130)
Age	-0.00155	-0.0005	-0.0283	-0.00765	0.0142	0.00362
	(0.0103)	(0.0033)	(0.0178)	(0.00469)	(0.0139)	(0.0035)
Caretaker (Yes:1)	0.127	0.0408	0.230	0.0622	0.149	0.0379
	(0.212)	(0.0677)	(0.411)	(0.111)	(0.304)	(0.0770)
Livestock (n)	0.00411	0.00132	0.00359	0.000971	0.00420	0.00107
	(0.00841)	(0.00269)	(0.0216)	(0.00583)	(0.0101)	(0.00255)
Loans (Yes:1)	-0.0435	-0.0139	-0.161	-0.0434	0.0681	0.0173
	(0.180)	(0.0576)	(0.344)	(0.0931)	(0.285)	(0.0725)
Years in village	0.00565	0.00181	-0.00201	-0.000542	0.00906	0.00230
	(0.0071)	(0.0023)	(0.0125)	(0.00337)	(0.0098)	(0.0025)
Observations	249	249	78	78	137	137
Pseudo R^2	0.1026		0.3004		0.2439	
Wald chi^2	30.77		39.02		32.69	
Prob>chi^2	0.0060		0.0004		0.0032	
% correctly predicted	73.09%		69.23		76.64	

Note: Robust standard errors in parentheses for Probit Coeff. Standard errors in parentheses for Predicted. prob.
*** p<0.01, ** p<0.05, * p<0.1