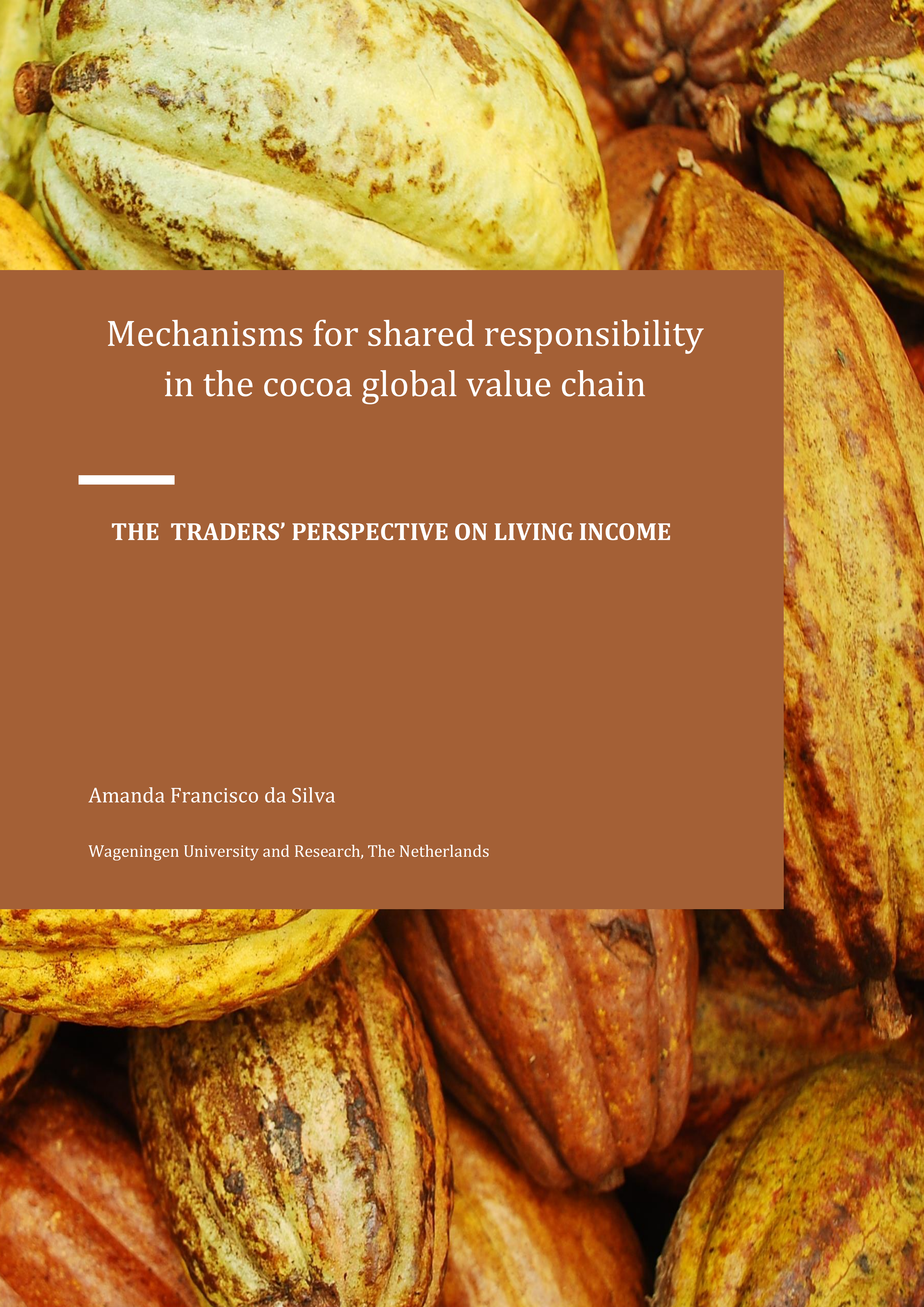

Mechanisms for shared responsibility in the cocoa global value chain

THE TRADERS' PERSPECTIVE ON LIVING INCOME

Amanda Francisco da Silva

Wageningen University and Research, The Netherlands

MECHANISMS FOR SHARED RESPONSIBILITY IN THE COCOA GLOBAL VALUE CHAIN – THE TRADERS' PERSPECTIVE ON LIVING INCOME

Author: Amanda Francisco da Silva
amanda.franciscodasilva@wur.nl
(Reg. # 931022-243-060)

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Environmental Policy Group
Wageningen University and Research
Wageningen, Netherlands

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Supervision by
Prof. dr.ir. Peter J.M. Oosterveer

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For quality of life

Abstract

The worldwide production of cocoa is immersed in some relevant environmental and social deficits, such as deforestation, production intensification, child labor, slavery and living income gaps. In order to effectively address these problems and attend to consumer's demand for a fair and more sustainable trade, traders have often engaged in shared responsibility approaches.

Considering that shared responsibility is defined as the means by which collective action, influence and costs are applied to tackle human rights violations and abuses; it is unknown whether or not and how this is actually being put in practice by the different actors joining the cocoa supply chain, with a special attention to traders/grinders. By first understanding their motivations to do so, this master thesis investigates the possible mechanisms in which traders can engage in more shared responsibility in reducing the income gap around cocoa farmers in certified global value chains, considering the existing barriers. The Global Value Chain conceptual framework provided the tools to analyze the relations held between cocoa traders and smallholders.

Being mostly motivated by having a stable supply of cocoa and answering to consumers' demand, the mechanisms set in the ground could be translated into different chain upgrading categories from the smallholders' perspective. Among them, the role of cooperatives is key in promoting an enabling environment for additional interventions to flourish.

Some strategies were highlighted as integrated. Their reach goes beyond the definition of chain upgrading to assume a more synergic approach among different actors and development interventions in the realization of a sustainable cocoa economy. They are: certification schemes and women empowerment. Certification schemes promote important vertical and horizontal integration in the chain, but their benefits in terms of living income remains marginal. Fairtrade, however, expose a higher potential in alleviating the income gap, but its expansion is constrained by consumers awareness. In the case of women empowerment, the females have an important role to play in income generating activities and with financial and administrative tasks. Evidence shows that empowering women means empowering the whole community.

This research concludes that although beneficial, alternative mechanisms do not solve the problem of living income, and discussions on cocoa price should be more in the mainstream. For that to be possible, further research needs to focus on the micro and macroeconomics aspects, and how the different actors will behave in facing price transformations. Additional insights are given on smallholders exiting the cocoa chain and the possibility of payment for environmental services, both with the target of escaping out of the poverty trap.

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This master thesis means a huge step in my personal and education development. This is part of a bigger dream to be a drop in the ocean in this huge challenge of making Earth a better and equitable place for all.

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1. Introduction

The cocoa production worldwide has gained special attention in scientific research due to the issues it is immersed in regarding social-economic and environmental aspects. In relation to socio-economic challenges, the available literature often points to child labor (Berlan, 2013), slavery (Berlan, 2013; Gold, Trautrims, & Trodd, 2015), gender imbalances (Barrientos, 2014), living income (Gneiting & Sonenshine, 2018) and poverty alleviation (RSCE, 2007). Under an environmental perspective, focus is mainly given to climate change adaptation and mitigation (Ehiakpor et al., 2016); production intensification (Gockowski and Sonwa, 2011; Bisseleua, Missoupi and Vidal, 2009) and deforestation (Ruf, Schroth and Doffangui, 2015; Kazianga and Masters, 2006). As the cocoa plantations are mainly based in developing countries around West Africa, Southeast Asia and Latin America (Franzen & Borgerhoff Mulder, 2007; Ruf, 2007); the lack of social norms and rules contribute further to the problems, which already have deeper and complex roots (Eakin et al., 2008).

In these contexts, certification schemes have been growing an important space in developing interventions. Either driven by NGOs or private organizations, they have been performing a relevant role especially when there is an absence of state regulation (Bush et al., 2013). These private standards, which eventually go beyond the national regulations, turned into very relevant aspects within the cocoa market both for trade and production (Liu, Andersen, & Pazderka, 2004). The schemes also ascended as a market response for more sustainable and social practices over the chain, where it has created a linkage between the "consumer's responsible choices with a producer's responsible practices" (Lee, 2009).

Although part of an integrated strategy in generating a more sustainable chain, certifications have failed to fully address issues concerning the living income gap among growers, and the poverty status that arise from that. As a result, there is an urge to holistically understand viable business mechanisms by which the living income can be better touched upon. Here, concepts of shared responsibility and corporate social responsibility are often in the center of the discussions, and their duty often falls over private organizations.

Undeniably, private organizations have a significant level of responsibility in correcting the imperfections in the cocoa chain that directly affect smallholders. Even though quite invisible from the consumers' eyes, grinders/traders have a substantial governance power that allows them to dictate terms in the whole global value chain, and therefore, promote important interventions in making the cocoa chain more sustainable.

This master thesis empirically investigated the possible mechanisms – and the barriers – by which traders could deliver a living income to cocoa smallholders, and their motivations to do so. Considering the whole supply chain, the level of responsibility attributed to traders is also discussed in comparison to other private actors joining the cocoa-chocolate global value chain. To better comprehend the dynamics of the world cocoa structure, the discussion is built on the concepts given by the "Global Value Chains" conceptual framework. In accordance, the mechanisms for share responsibility are discussed through the lens of chain upgrading.

From a starting point, this thesis presents a background information on relevant concepts that are pillars to understand the cocoa web. After that, the research questions and methodology are explained, together with the scope limitations. A foundation on the concept framework is then given, correlating it with the cocoa global value chain and the relations held between grinders and smallholders.

The empirical findings that come afterwards were based on semi-structured interviews conducted with specialists from the public, private and civil spheres. As a result, the chapter 5 and 6 reflects on the empirical findings over the traders' motivations and the possible mechanisms to deliver a living income to cocoa smallholders. Understood as integrated strategies, the role of certifications and questions on women empowerment are then further examined at chapter 7. In the general discussion and conclusions at the chapter 8, critical reflections are elaborated based on the empirical findings and the conceptual framework.

2. Background information

2.1. The living income story

The approach of living income takes one step further of other concepts of wage and poverty alleviation, which are commonly only related to elementary subsistence and survival. While living wage comprises an individual notion centered in the salary obtained by a certain employee, living income entails a household approach, therefore, comprising all the family members and their combined income. It is defined as "the net annual income required for a *household* in a *particular place* to *afford a decent standard of living* for *all members* of that household. Elements of a decent standard of living include: food, water, housing, education, healthcare, transport, clothing, and other essential needs including provision for unexpected events" (CIRE, 2018; Living Income, 2019; Senathirajah, 2019). Having a decent living income is also described as a fundamental human right under the Universal Declaration of Human Rights from the United Nations. In contrary, cocoa households are immersed under an "income gap" situation, which is characterized by the difference between their actual income and the benchmark of a living income, calculated based on their location and the respective size of their families (Living Income, 2019). The figure below illustrates the living income story.

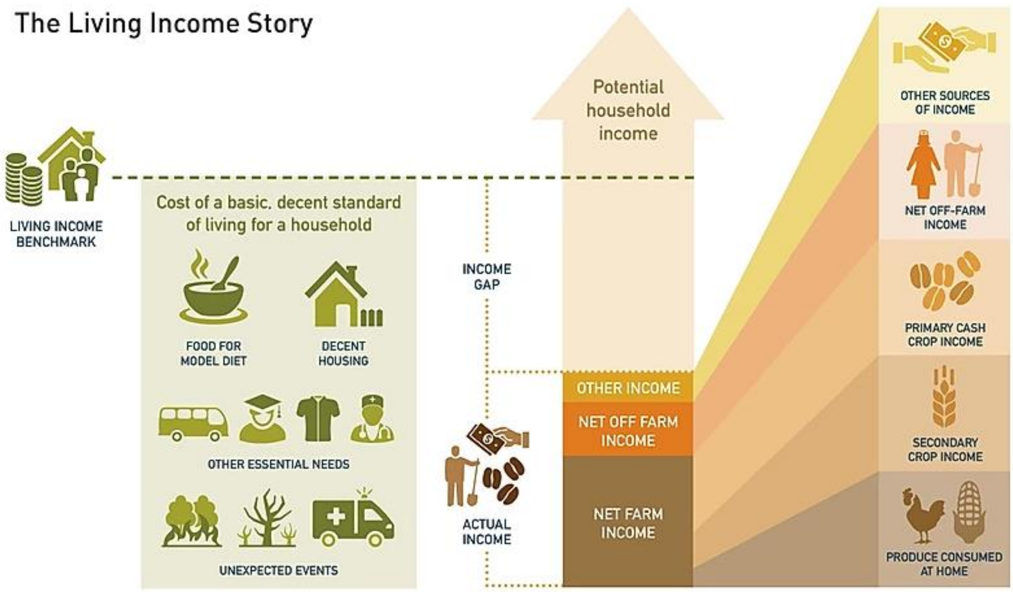

Figure 1. *The Living Income Story. Extracted from: (Living Income, 2019).*

Undeniably, the situation of cocoa smallholders constitutes a poverty cycle, according to Arsyad & Kawamura (2015). In this context, poverty is not only defined by an insufficient income that results in financial/consumption destitution, but it also entails inadequate access to basic needs, such as education, health and nutrition. These factors together negatively contribute to the side effects of income poverty, culminating in higher child mortality rates, shorter life expectation and illiteracy across the growers communities (Islam, 1990). In other words, "different aspects of poverty reinforce one another" (Arsyad & Kawamura, 2015). In addition, because of the size of their farms, small-scale growers need to maintain the yields in a high or sufficient level in every harvest season in order to support their family's subsistence, which per se is not always enough to reach a reasonable living income (Achterbosch, Berkum, & Meijerink, 2014). Although cocoa cultivation has already improved local livelihoods by providing jobs and including the farmers in a global value chain, it is still being performed under poverty conditions (Fahmid, Harun, Fahmid, Saadah, & Busthanul, 2018; Ingram, 2015).

2.1. Triggers for action

Over the last years there were two important triggers from a business perspective that promoted interventions among the powerful companies in the cocoa chain: media attention and production stagnation (Cappelle, 2009). Claims of child labor and slavery came into the world's eyes on the early 2000s. By that time, a British documentary highlighted that around 90% of the Ivorian cocoa farms employed child labor that were sold as slaves from the neighboring countries of Burkina Faso, Mali and Togo. Based on this report, children were obligated to work 80-100 hours per week under circumstances of food shortages, physical punishment and other abuses. Public pressure was put against the global cocoa value chain, and it was the trigger for companies to firstly engage on more responsibility on their cocoa sourcing (Schrage & Ewing, 2014).

In a second stage, a prediction of cocoa shortage by 2020 released in 2011 by the trading company Armajaro mobilized the whole sector. The reasons behind this shortage were related to the poverty cycle that cocoa smallholders were immersed in. Low cocoa prices and low cocoa production per farmer per harvest were the pillars behind it. Therefore, less and less young farmers would be interested in producing cocoa under this low socio-economic environment (Barrientos, 2014; Squicciarini & Swinnen, 2016). To confirm this trend, in the early 2000, a high crop diversification from cocoa to rubber took place in West Africa, the main cocoa region production worldwide. The amount of rubber farms in the Ivory Coast increased three times between 2004 and 2009 (Odijie, 2018). In response to that, the chocolate industry immediately engaged in sustainability and Fairtrade interventions shaped as certification labels in an attempt to hold cocoa production.

2.2. Role of certification schemes

Because of their power to promote change and endorse more environmental-friendly practices, certification schemes are often at the center of discussions in cocoa global value chains. However, a focus on promoting fair trade and a better living income is still not enough in face of the current problems. On top of that, certification schemes can work as an instrument to build corporate social responsibility (CSR) in food supply chains in an attempt to solve the important issues that persists on cocoa livelihoods (Maloni & Brown, 2006). Nowadays, this notion of CSR includes a triple bottom line approach, in which responsibility is explored under economic, social and environmental terms (Wiedmann & Lenzen, 2008).

Certification schemes, in general, claim themselves as an explicit way for farmers to achieve better life conditions (Cargill, 2019; UTZ - Rainforest Alliance, 2019). However, due to the high costs of being certified there are still concerns about the potential of certification schemes to increase inequalities among growers or to promote the exclusion of those ones that are incapable of affording the certification costs (Garcia Drigo I., 2009; Pinto, Gardner, McDermott,

& Ayub, 2014). Aligned to that, the exclusion of small farmers was named to be one of the constraints for certified commodities markets to keep expanding, particularly for products such as cocoa and coffee that are generally cultivated by smallholders (ISEAL, 2011). Therefore, it is clear that smallholders need external governance tools in order to simultaneously promote more sustainable practices in cocoa cultivation and a better livelihood for themselves.

2.3. Shared responsibility and the cocoa global value chain

When analyzing a given supply chain, environmental and social responsibilities are commonly attributed to the producers of a certain good rather than being diluted among other actors of this same supply network. This has taken place as a result of the economic-policy arrangements presented in market-driven economies (Wiedmann & Lenzen, 2008). In accordance to that, the impacts held either upstream or downstream of the consumption node are not always fully weighted but attributed to the intermediate producer node. In practical terms, at the chocolate chain, the responsibility is often attributed to the chocolate brand, whereas traders or consumers not always take responsibility. Therefore, additional actors and their respective influence on the total impacts cannot be fully assessed (Spangenberg & Lorek, 2002). As a counterpoint, the idea of shared responsibility was born, in which "all parties with a role in designing, producing, selling or using a product […], local governments and general taxpayers" have responsibility on the sustainable profile of a certain product and its life-cycle (McKerlie, Knight, & Thorpe, 2006). None of those actors is completely isolated or excluded of the negative outcomes intertwined in this supply chain (Schrempf, 2012), which partly explain why all actors should be responsible in building a more sustainable cocoa economy.

According to the Global Agenda Council (2015), the concept of "shared responsibility" is aimed to tackle the fundamental reasons behind human rights violations and environmental impacts unfolded across supply chain operations. To do so, collective action, influence and financial resources from "global and local businesses, governments, international organizations and philanthropic organizations" are synergies in solving together those important challenges (Global Agenda Council, 2015). In fact, the cocoa supply chain has resulted in the creation of jobs and opportunities for millions of growers, which could eventually alleviate their poverty status. However, on the other hand, the deep analysis of the chain keeps exposing the persistent issues on human rights and environment impacts linked to cocoa global sourcing (Global Agenda Council, 2015; J. Lee, Gereffi, & Beauvais, 2012). Therefore, we can conclude that shared responsibility measures are not being effectively applied and that the mechanisms for it to thrive needs to be further explored.

In the case of the cocoa global value chain, there is a vast set of different actors interacting in a vertical flow. In the upstream, cocoa is mainly cultivated in West Africa, Asia and Latin America. Around 70% of the total production comes from millions of smallholders in West Africa, mainly in Ghana and Ivory Coast owning 2-3 hectares in average, constituting a very diffuse and ample production base (International Cocoa Organization, 2017; Thorlakson, 2018). In contradiction, trading and industrial activities are highly concentrated, with three traders/grinders and six brands overly dominating the global chocolate production worldwide (Thorlakson, 2018). On the other edge of the chain, chocolate is consumed by millions of consumers worldwide. This shapes the cocoa-chocolate chain as a kind of hourglass.

Under this context, trading (or grinding) activities in the chocolate supply chain – which is responsible for processing cocoa beans into butter, powder and liquor – are very consolidated, with three companies occupying 60% of the world cocoa processing. They are the Swiss chocolate group Barry Callebaut; the American commodities trader Cargill; and the agribusiness firm Olam, with its headquarters in Singapore (Terazono, 2014). Following the same pattern, six brands dominated 60% of the market share for chocolate worldwide in 2016: Mars with 14.4%, Mondelez International 13.7%, Nestlé 10.2%, Ferrero 9.5%, Hershey 7.2% and Lindt 5.1% (Statista, 2019). In summary, the global cocoa chain is basically under the hands of nine corporations.

This imbalance is not only seen in the number of individual actors in each of the supply chain nodes, but also in how profits in a chocolate bar are distributed among them. Accordingly to Gilbert (2006), in an indicative cost breakdown of a milk chocolate bar (where other ingredients are also considered, such as milk and sugar), the cocoa farmer only reaches 4% of the total cost, while traders and manufacturers combined embrace a share of around 50%. Added to that, supermarkets and retailers have a margin of 28% (Ingram, 2015). Clearly, a chocolate bar does not even include the costs of all environmental and socio-economic externalities behind its production.

Therefore, the idea of shared responsibilities in the cocoa chain constitutes a set of efforts travelling from the most powerful actors towards growers at the production base in an attempt to develop a *sustainable cocoa economy*. Accordingly to the Oxfam International Report, "sustainable cocoa economy is where each person investing time or money into the supply chain would be able to earn a decent income for themselves and their family, work in good conditions, and in a manner which did not harm the environment" (Cappelle, 2009). Hence, the concept of a *sustainable cocoa economy* is built on the basis that better social conditions for cocoa farmers must not come at the expense of environmental depletion. Measures should contemplate the reasonable use of pesticides, mitigation and adaptation to climate change and deforestation eradication. In that sense, traders together with brands have a high potential of influence the chain, by coordinating fair trade and environmentally sustainable practices around the production node.

Under this context, certification schemes can constitute an important tool for shared responsibility to thrive, in which efforts and inputs coming from downstream would be applied in the social development of farmers, which also includes the help needed to join a certified chain. To illustrate how this can be unfolded, the study conducted by Deans, Ros-Tonen, & Derkyi (2018) in Ghana explores the means by which certification schemes have worked as an instrument to promote more vertical and horizontal transfer of inputs across the cocoa chain in Ghana. In this study-case, vertical integration came as greater support and goods allocation from traders to farmers, with the aim of certification standards compliance. Regarding the horizontal integration, exemplary farmers, elected by their good cultivation performance and social network within the given community, were also agents assisting the development of other farmers at the local level.

2.4. Traders' role and influence at the cocoa supply chain

The role performed by traders in the cocoa value chain goes beyond its solely processing capabilities. As a highly concentrated sector, they are capable of producing changes quickly across the chain (Cappelle, 2009). Accordingly to Kaplinsky & Morris (2005), traders have actually the primary governance power in the cocoa global value chain due to their intermediate position between farmers and brands. Also, the high concentration of traders is direct proportional to their buying power. In other words, it means that each of the traders has a substantial market share, allowing them to govern the market circumstances of purchasing cocoa beans from farmers (Oomes et al., 2016). This simultaneously contributes to a low bargaining power in negotiating cocoa selling prices for farmers, which already suffer from the lack of information about financial aspects and the market Gayi & Tsowou, 2016). In summary, the degree of traders competitiveness in the cocoa chain has a directly influence on production and income increase, equity and welfare of farmers (Moir, 2007). Therefore, traders are capable to apply important mechanisms in delivering a better living income to cocoa smallholders.

Furthermore, one of the reasons for the low income of farmers in the cocoa chain is related to its numerous processing steps from raw material to chocolate, which often has the participation of different actors (Schrage & Ewing, 2014). Each of these steps naturally has a profit margin, however it is diluted unevenly among the actors in charge of these activities (Ingram, 2015). This explains why an increase on cocoa's market price does not necessarily mean a decent income to farmers (Oomes et al., 2016).

In general, traders constitute the first contact with farmers and growers' cooperatives, which make these later ones very subordinated to the traders' way of business operation. On the other side, the traders are also the ones to hold supply agreements with the big chocolate brands (Cappelle, 2009). Blowfield (2003) even name traders as "invisible companies", which have a substantial governance power in the cocoa chain, but are not directly visible to consumers; whereas the attention is mostly directed to the brand holders. The governance power here is defined as the capacity of firms to influence and change the organization, decision-making, production, logistics and marketing system of a given value chain, with a direct impact on the stakeholders therein (Gereffi, Humphrey, Kaplinsky, & Sturgeon, 2001).

This invisibility can also lead to some sort of "inertia" among traders in engaging in a more sustainable cocoa economy, as they might not take full accountability for issues concerning farmers and the primary production (Phillips & Tallontire, 2007). That is why many of the actions taken in tackling cocoa issues were initiated by the chocolate brands and not by the traders themselves. This means that there is room for improvement on the operations carried by traders in promoting a more sustainable cocoa economy. This master thesis wants to investigate what are the possible mechanisms that traders can actually engage to promote more shared responsibility in certified chains; and what are the bottlenecks that avoid them to do so.

Even though the traders have somehow recognized the income gap problem in the cocoa chain, they often stress that they would only pay more for the cocoa beans if this cost could automatically be transmitted to the chocolate brands. Simultaneously, chocolate manufacturers keep complaining about the price pressure for cheaper products coming from supermarkets and some consumers' clusters (Fountain & Hütz-Adams, 2018). This debate and responsibility shifting, of course, do not help to solve the problem and also reinforces the fight for power within the chain.

2.5. Available variables and barriers to reduce the income gap and applicability in the cocoa chain

The root causes of poverty around cocoa growers can be basically defined by three factors: their small fields, low productivity and the lack of income alternatives. So firstly, it is important to recognize that actions to increase income alone do not have the power to deliver real economic and social development to growers' communities. To produce a higher impact, it is important that those actions be accommodated in contexts that public services are not lacking as well (Business Fights Poverty & Sustainable Food Lab, 2017; Ruben & Pender, 2004). Therefore, there are different and independent variables that affect smallholders' income. Additionally, it is clear this is not a solely burden, but rather a collective responsibility in which actors have diverse levels of influence (Living Income, 2019). For the purpose of this research, a special attention will be given for the measures requiring participation of the private sector inserted into a certified chain.

Here, the variables explored to reduce the income gap have a dual focus: income improvement and resilience. Considering that growers are subjected to unexpected income fluctuations due to climate conditions, pests pressure and variations on market prices, income resilience must be also fully considered (Farmer Income Lab, 2018). From the income improvement perspective, the ultimate goals are an ***increase on the production volumes*** or an ***increase on net margins per product unit***. For income resilience, the key actions are concentrated on ***crop diversification*** and ***adoption of risk mitigation practices*** in field (Molenaar & Short, 2018).

Taking a look at past successful interventions, the Farmer Income Lab in collaboration with important chain actors conducted a peer review designed to determine projects that reached a substantial income improvement. By selecting the benchmark of at least 100% income increase, a special cluster of programs were selected and, therefore, their common successful patterns identified. Four elementary factors were classified as the building blocks to produce meaningful changes: customize, bundle, connect and partner. "Bundling interventions, tailoring programs to farmers' needs and contexts, developing tighter connections across the supply chain and partner for change"- see figure 2 (Farmer Income Lab, Wageningen University, Mars, Socialside, & Oxfam, 2019). Tackling rural poverty from a corporation perspective is about doing business differently than usual and, thus, creating a new negotiation environment for growers.

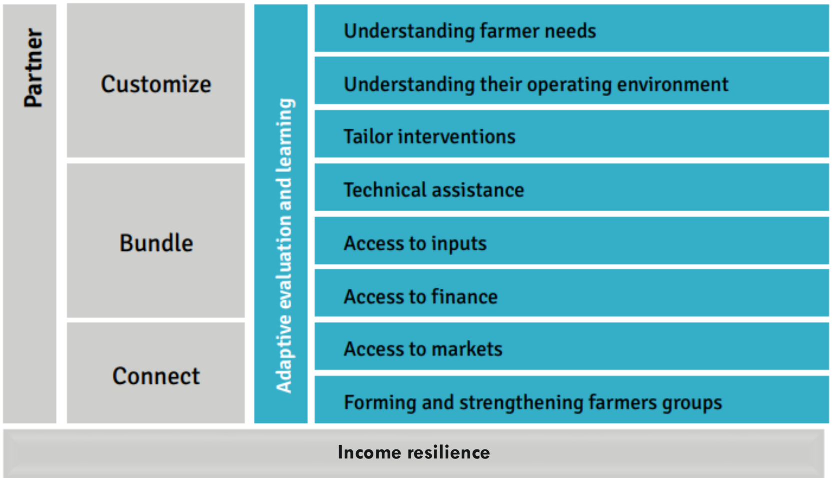

Figure 2. *Successful interventions for farmer income increase. Extracted and adapted from* (Farmer Income Lab et al., 2019).

These variables also expose important challenges that need to be considered when designing measures. At the center of the discussions around the living income gap issue among smallholders remains two substantial asymmetries: in one side, farmers carry themselves all the risks and vulnerabilities from farming; on the other side, they lack power to dictate their own participation and importance in the cocoa global chain. These imbalances can be summarized in disproportionate risk faced by farmers and unequal market power in comparison to other chain actors. This is only the iceberg edge of deeper problems, which gives birth to additional structural, risk and power barriers in reducing the living income gap (Gneiting & Sonenshine, 2018). To better understand how the opportunities and asymmetries are unfolded, I will discuss the challenges within each of the main areas proposed in the Figure 2: customizing, bundling connecting and partnering.

a) Customizing

Farmers have different needs under different contexts. Adjusting to their specific conditions and capabilities is the way to build successful interventions (Farmer Income Lab, 2018). Smallholder growers possess clear features that separate them from large-scale enterprise farmers, such as access to finance, inputs and information; land property rights; limited market participation and high vulnerability to natural externalities and market conditions (Chamberlin, 2007). In the same way, there are important differences that distinguish smallholders among each other. On other words, not all smallholders are the same. They suffer from resource scarcity, land constraints and market volatizations in different degrees among each other (Kuivanen et al., 2016). Recognizing that there is no one-fits-all solution is the first step in developing projects to tackle the income gap of cocoa growers.

For this purpose, Köbrich, Rehman, & Khan (2003) suggest the development of a "farmers taxonomy" by grouping smallholders accordingly to their general context of available resources and constraints. This enables a higher applicability and functionality of interventions designed to accommodate these specific particularities. Good examples can be naturally retrieved from other commodities interventions, such as coffee, but it is important that they are again tailored to the cocoa reality.

Many argue, for example, about simply enhancing the price paid for cocoa as the solution to solve the income deficiencies in the chocolate chain. If that was completely true, then Fairtrade practices would receive the "silver-bullet' title. However, there are three main points to explain why, unfortunately, solely increasing the price is not the perfect solution, and rather additional measures should be taken simultaneously.

First, cocoa farmers are typically characterized as smallholders owing in average not more than a few hectares of cultivated land. Thus, production volumes per farmer are not very large. In that sense, price per ton can be paid fairly but the amount produced is still so low that even making the price per volume unit twice more, farmers would still be placed under the poverty line of US$ 1,90 per capita/per day (Oomes et al., 2016) and even further away from the living income benchmark. To illustrate the case of the second largest cocoa producer in the world, the living income in Ghana was set as US$2,19 per capita/per day (Living Income, 2018); however, the actual per capita income for farmers from cocoa cultivation was calculated at US$ 0.42 a day, or US$ 0.63 combining cocoa and additional income sources (Ware Barrientos et al., 2008). So, a price doubling would unquestionably help the local livelihoods, but it is still far from a decent income. This also raises the question on the viability for farmers to reinvest in their fields and on yields improvement with such a low income. According to Dormon et al. (2004), deficient and obsolete farming practices come as a result of low income among Ghanaian cocoa farmers. With low money, there is no investment on better techniques. With no better in-farm techniques, there are no higher yields. With no higher yields, the income remains low. It is a self-feeding cycle.

In a second stage, evidence shows that the highest peaks on cocoa prices also culminated in high deforestation rates around the production countries (Franzen & Borgerhoff Mulder, 2007). Cocoa production is per se already a substantial driver to deforestation in West Africa (Ruf, Schroth, & Doffangui, 2015). However, it is not only driven as a result of higher market prices. Among other factors, deforestation also comes as an attempt to offset the low productivity rates faced by farmers, especially in Ghana and Ivory Coast (De Beule & Jassogne, 2014). This further reinforces the need for investment on better farming practices, in order to enlarge yields and lower production costs, while avoiding forest cutting.

And thirdly, the chocolate chain has a lot of processes from cocoa production to end-product consumption. This entails that every single actor is willing to have a profitable share, and this is how the power imbalances are inevitably unfolded. As mentioned earlier, a chocolate bar breakdown shows how farmers receive a miserable share when compared to bigger and more powerful actors downstream. In addition, within the informal context of cocoa production, we commonly have the figure of a middleman who intermediates smallholders and traders, and, therefore, constitutes one more node in the chain.

Middlemen definitely play an important role by enhancing commercialization from low resourced farmers to final markets. However, farmers' income can be further shortened in settings with an expressive participation of middlemen, who buy the crops from smallholders at a miserable price and sell them with a considerably high profit margin to traders (Chigusiwa, Bindu, Muchabaiwa, & Mudavanhu, 2013). The study conducted by Abebe, Bijman, & Royer (2016) shows that the gross profit of farmers that operated without a middleman was 225% higher when compared to middlemen intermediation selling. Thus, shortening the chain would be an important manner to make sure that farmers are being reached by income improvement interventions. This further explains why connecting farmers vertically and horizontally via cooperatives are capable of producing change.

One important aspect to think about is that the hypothetical scenario of overall yield increasing among African cocoa farmers could eventually lead to a cocoa surplus in the market. And this, as a response to the law of supply and demand, will inevitably result in price declines. Therefore, any mechanisms to either enhance the prices or working on the yield improvement must come accompanied to important scenarios design and selection of specific farmers clusters, without neglecting income resilience measures. Overall, the consideration of both typical market behaviors and local structural imperfections must come together in a big push to close the income gap.

b) Bundling

Considering that rural poverty is a multi-factorial problem by nature, the approaches to it must also address many dimensions of smallholders' livelihoods synergically. Combined actions in the fields of financial access, information diffusion and institutions strengthening, for example, have the power to reduce income inequalities and alleviate poverty (Beck, Demirgüç-Kunt, & Honohan, 2009).

In the smallholders' context, the economic theory of "microfinance revolution" has proven to be true. Under poverty settings, the "marginal return of capital" promoted by financial access is considered large when money itself is already too scarce (Karlan & Morduch, 2010). For cocoa farmers, access to credit is the pathway to reach inputs that has the potential to improve yields and promote in-farm investments, which may lower the production costs (Awotide, Kehinde, & Akorede, 2015). In that line, access to financial services can be a tool for both income improvement and resilience.

In contrary, limited access to capital and information hamper the growers' capacity to engage in an evolution from subsistence to profitable farming, and then sustaining the poverty cycle they are embedded in (Ogutu, Okello, & Otieno, 2014). Therefore, credit and market information can be the key by which smallholders reach the standards required to be certified and inserted in global value chains. Hornik (1993) sees that information sharing can promote the better use of resources that are already available in a given place. In cocoa communities, where resources are often scarce, information can promote a better organization and awareness of the use of those resources among farmers. Additionally, Rogers (1995) placed information as the instrument for problem-solving and decision-making in an uncertainty environment. For cocoa farmers, this uncertainty is reinforced by variations on climate, pest outbreaks and market prices.

As mentioned, cocoa is mainly produced around Southwest Asia, Latin America and Africa. These places are characterized by their weak institutions and lack of social norms, property rights and rule of law (Eakin et al., 2008; Rodrik, Subramanian, & Trebbi, 2004). Eakin et al. (2008) further emphasizes that those environments are immersed in a "structural violence" scenario where the vulnerable population is exposed to "chronic economic marginalization, social exclusion, disempowerment and other forms of indirect violence". In the same line, Rodrik et al., (2004) shows that higher income levels and strong institutions are directly proportional. As a consequence of structural violence and weak institutions, smallholders in cocoa producer countries face important social deficits and lack of basic inputs. There is no proper access to education, health care, infrastructure and public services.

Reshaping institutions has proven to be an extremely difficult task around developing contexts, where interventions with a "community-driven development" scope tend to not last longer and face persistent corruption practices (Casey, Glennerster, & Miguel, 2012). Approaches to reduce the income gap are, therefore, addressed in scenarios where many other gaps are present. These structural barriers highlight that other inputs and public services need to be synergically addressed with income interventions.

Several interventions have received attention in international aid programs, and in the last years, a lot of optimism has been put on the potential of financial access (Karlan & Morduch, 2010). In a natural chain of causation, deficient environments also lead to difficulties in accessing finance for the poor. With the lack of infrastructure, private banks face adversities in providing services to remote areas in a profitable way. Macroeconomic policy, national budget inadequacies, high inflation and corruption are important factors to determine the application and efficiency of investment and growth interventions made from private firms (Reinikka & Svensson, 2002). They are, of course, more willing to apply investments where governments provide some basic infrastructure to the population.

Rural infrastructure also has a high influence in determining the production costs (Dalton, Masters, & Foster, 1997). Poor transportation structure, for example, is a recurrent problem around the African producer countries. As inadequate in reach and quality, rural roads do not receive the proper maintenance, and thus, transportation providers charge a lot to transport lower volumes (Pedersen, 2000). Accordingly to Obare, Omamo, & Williams (2003), elevated costs for transport leads to "high farm gate input costs; low farm gate output prices; low traded volumes; volatile markets; low productivity".

c) Connecting

Making a combination of vertical and horizontal integration for smallholders is a good strategy to tackle the prevalent instability in the cocoa chain. Although seen as more stable, international markets controlled by leading agro-companies are not directly accessible for smallholders and this is also reinforced by the high concentration of companies across the chain. Thus, farmers need special channels to it, which can be facilitated by establishing relationships among themselves and other actors downstream (Al-Hassan, Sarpong, & Mensah-Bonsu, 2006). Here, the idea of connecting is based on the goal of linking smallholders to global value chains.

Horizontally speaking, grouping poor farms in cooperatives means their inclusion into higher added value markets, such as certified cocoa. It is also a shortcut to reach agricultural extension, inputs, social aid and market information (Donovan, Blare, & Poole, 2017). Furthermore, cooperatives also have an improved bargaining power because they supply higher bulking volumes of commodities to traders. This enables the payment of better prices to its members and the strengthening of local communities via investment in social programs on education and healthcare (KPMG, 2013). The creation of cooperatives is encouraged by NGOs and governments because of their high potential to alleviate poverty and empower smallholders, both resultants of more solid ties with global value chains (Donovan et al., 2017). On the other side, the private sector interest in supporting cooperatives has more business nuances, and it is based on stable commodity supply, quality guarantee and public reputation.

In summary, cooperatives also give partial solutions to government and market failures in poor developed rural areas (Calkins & Ngo, 2010).

Although it is the current best scenario for cocoa smallholders, these groupings also present some important pitfalls. In contexts where social norms are lacking, corruption has an ample space to interplay, and the same occurs within cooperatives. The available literature often points to misconducts occurring among board members who benefit themselves and their chosen ones in terms of decision-making processes, financial allocation, market and information access, vote-buying and inputs distribution (Cramer, Johnston, Oya, & Sender, 2014; Foundjem-Tita, Donovan, Stoian, & Degrande, 2016; Mude, 2006). Under this uneven scenario, poorer and marginalized members stand far behind in the opportunities given by global value chains.

Vertical integration entails a "modernization of agricultural value chains" (Barrett et al., 2012) and produces a better dynamism between different actors joining the same network. Similarly, certification schemes themselves also guarantee more attachment between them. By linking smallholders to more powerful actors, farmers are more prone to be benefited by shared responsibility measures, via access to market information, long-lasting contracts with traders and inputs transfer.

In parallel, informal practices are overly seen in the cocoa market. Accordingly to Otoo (2019), cocoa farmers are even defined as informal workers by the social security body and the national statistical service of Ghana, which reinforces the lack of support that they receive from the government. Informality in the cocoa production node unfolds as operations carried out of the legalities imposed by national regulations and/or private contracts. Cooperatives can work on reducing the informal market through traceability, chain integration, long-lasting contracts and, surely, certification standards.

However, connecting smallholders in developing countries to global value chains brings opportunities but simultaneously also challenges for them (Abebe et al., 2016). Access to international markets is a substantial but not mandatory condition for poverty alleviation, especially considering all the structural barriers that smallholders have to face in a daily basis. To overcome these obstacles, institutional articulations among different stakeholders are the basis to connect farmers vertically and horizontally in order to include them in global chains (Franz, Felix, & Trebbin, 2014; A. H. J. B. Helmsing & Vellema, 2012).

Nonetheless, the inclusion of smallholders in international networks can lead to some negative externalities, especially involving environmental impacts of intensifying agriculture or further worsening the conditions of those ones that are not fully part of these global arrangements. Normally, the excluded smallholders, who are out of the chain mainstream, are exactly the ones that have the highest needs in economic and social terms, revealing a limitation on the development scope of some global value chains interventions (Franz et al., 2014).

Much of the available literature explores some fundamental hypothesis for social exclusion around rural areas. However, it is needed a more holistic view when analyzing it under special contexts where poverty is the commonality and not the exception, such as those where cocoa production is inserted. In that sense, exclusion should be analyzed not simply as a marginalization of the poor, but as a consequence of the incorporation of a few, which is dictated by standards and conditions (Ponte, 2011) imposed by more powerful actors and consumers.

In the case of certified value chains, the imposition of required standards has generated an entry barrier for some farmers or the directly exclusion of others who do not have the resources and capabilities to comply. The exclusion degree faced by growers is highly dependent on the amount and type of investments they are demanded to make in order to attend the requirements (Okello, Narrod, & Roy, 2011). Excluded farmers are paid less, have no bargaining power and are more subjected to trade with middlemen. All these factors further contribute to the persistence of the income gap.

In parallel, the cocoa market worldwide can be defined as a "short market", in which cocoa production volumes are very close to cocoa processing volumes, as shown in the graph below (Oomes et al., 2016; World Cocoa Foundation, 2014). This leads to two important aspects of the chain: there is basically no cocoa surplus and therefore, there is not much storage during off-season periods; and secondly, this increases the competition among traders by looking to cocoa beans at the farm gate level. The counter intuitive condition is that this competition does not help farmers to have a better bargaining power. In contrary, due to their lack of market information and access summed to the high concentration of traders, they end up having little negotiation possibilities.

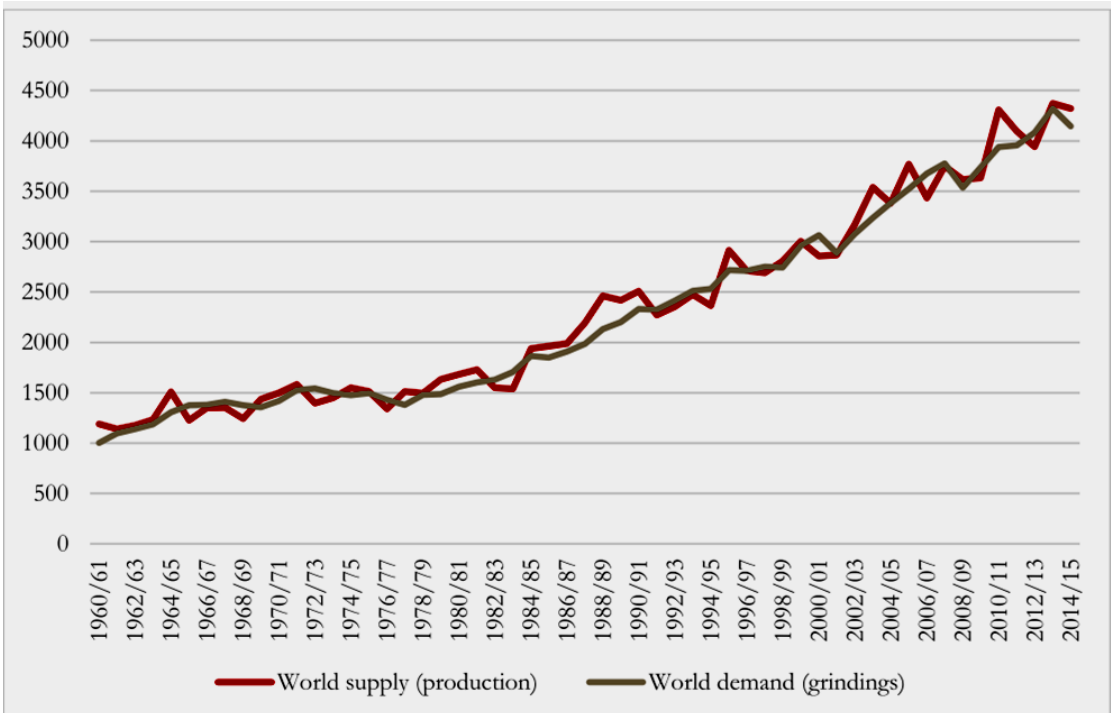

***Figure 3**. The cocoa "short market": world supply goes hand in hand with the world demand. Extracted from*(Oomes et al., 2016)

These two factors increase the occurrences of side-selling (selling cocoa outside of cooperative contracts and/or via middlemen) or even smuggling cocoa across borders in the pursuit for immediate money or a slightly higher price (David, 2013; Mujawamariya, D'Haese, & Speelman, 2013). The persistent informality and not compliance with settled agreements discourage traders in arranging contracts with farmers and cooperatives (Lemeilleur, N'Dao, & Ruf, 2015). The issue is that many shared responsibility interventions to help farmers to reach better incomes occurs under the signature of long-term contracts. Overall, we need to recognize that, although, side-selling is an irrational behavior for farmers in economically and long-term grounds; it expose some reasonability in terms of their livelihoods (Mujawamariya et al., 2013).

It is important, therefore, that better membership and trust linkages be established between cooperatives and its members in order to reduce informal practices.

d) Partnering

The multidimensional faces of poverty require a set of actions with the participation of the private, public and civil society spheres. Their individual action can, of course, lead to positive results; but substantial changes are produced when stakeholders' alliances are built. Multiple efforts give birth to an enabling environment for the relevant interventions to come into force (Farmer Income Lab, 2018).

In general, stakeholders placed in one of the different social spheres of private, public or civil society have different agendas. Different stakeholders groups have different interests in solving the prevalent issues surrounding the cocoa chain: the private sector wants to assure enough supply of cocoa beans; environmentalists and NGOs fight against human rights violations, and for more sustainable and fair income practices; governments wants to secure the domestic agriculture sector; while consumers are increasingly demanding high quality products adjusted in a sustainable chain (Cappelle, 2009; Shapiro & Rosenquist, 2004).

Nevertheless, conflicting interests can be even more problematic within the same spectrum of actors, and unfortunately, this also has adverse effects to rural poverty. Even though there are contrasting views in the literature about this issue (FAO, 2008; Gilbert, 2006; Make Chocolate Fair!, 2015; Oomes et al., 2016), the intense competition and market concentration of traders are a relevant point behind the smallholders' poverty. This imbalance can be unfolded in different ways. Gilbert (2006) explains, for example, that the market power force of competition itself have not reduced the price paid for cocoa beans at the farm gate. Instead, the market forces of companies were reflected in their power of controlling and governing the terms of the chain, and the distribution of profits over it, especially among traders, manufactures and retailers. Although the prices for a chocolate bar have been increasing over the last years, this was never transmitted to the farmers; and the firms were just biting a bigger piece of the profit. Also, because of the competition, traders tend to engage alone in social projects to help farmers, as they do not want others traders to benefit from their own efforts. To solve this, certification is an important tool to put all the different traders in a convergence goal of sustainable cocoa sourcing by facilitating multi-stakeholders platforms.

In issues of poverty, NGOs fill an important gap in the distribution of welfare services and production of internal policy reforms in developing countries, as a compensation for the state failure (Dorward, Kydd, Morrison, & Urey, 2004). They are indeed the main actors advocating for poverty alleviation, however, they are often not in good terms with private organizations (Reade, Todd, Osland, & Osland, 2008). Governments have the interest to benefit its own economy and they are also aware of the local reality, and therefore, can help to build customized interventions that are relevant for the local conditions. Businesses, on the other hand, own the money and the expertise that the growers need to pursue a social and economic development.

With the realization over the last years that sustainability could be explored under the three dimensions of economy, social and environmental terms (Wiedmann & Lenzen, 2008), the efforts coming from different directions started to converge. Therefore, a sustainable cocoa economy can only be achieved with coordinated efforts on terms of expanding the market access for farmers, including them in global value chains, respecting human rights, improving incomes, and applying environmental friendly practices (Shapiro & Rosenquist, 2004). Thus, in the cocoa network, public-private partnerships have a prosperous environment to thrive.

e) Income resilience

There is a huge evidence in the literature pointing to income resilience as a synonym of environmental resilience (Ifejika Speranza, 2013; Jacobi et al., 2015; Makate, Wang, Makate, & Mango, 2016). This idea easily accommodates the intrinsic pillar of ***adoption of risk mitigation practices.*** Cocoa regions worldwide are already facing extreme climate events, such as flood, droughts and natural disasters (Ehiakpor et al., 2016; Eissler, 2019). The exposure to these natural constraints exacerbates the income vulnerability that smallholders are already subjected to. Crop diversification and other conservational measures can be seen not only as a strategy to respond to environmental vulnerability, but also as an economic tool to sustain the farmers' livelihoods. Different crops react differently to environmental variations, market fluctuations and harvest seasons. Agroforestry and conservation practices promote a more stable setting because they combine ecological services, biodiversity conservation with a diversified crop production (Vaast, Harmand, Rapidel, Jagoret, & Deheuvels, 2016). Therefore, they would work as a rebound for times when cocoa cannot deliver the expected outcome in terms of yields and income to support farmers' livelihoods.

Aligned to that, risk mitigation practices such as crop diversification and biodiversity conservation go hand to hand with the concept of Climate Smart Agriculture and the establishment of a buffer capacity in both environmental and economic terms (Harvey et al., 2014; Ifejika Speranza, 2013). The idea of Climate Smart Agriculture was originally created by the FAO, who currently defines it as "an approach for developing agricultural strategies to secure sustainable food security under climate change" (FAO, 2019) with its three main pillars based on enhancing *productivity*, while applying actions to *adapt* and *mitigate* climate change (FAO, 2019; Newell, Taylor, & Touni, 2018).Thus, Climate Smart Agriculture puts in place a flourishing environment for crop diversification to thrive.

Within this context, ***crop diversification*** is a highlighted and feasible way by which farmers can reach a sustainable agriculture in environmental and subsistence terms (FAO, 2009). If we consider commercial agriculture and economic interests, this is, however, a hard goal to achieve. The world relies on approximately 82 different crops species to meet 90% of the human calories requirement, out of at least 12.650 edible plants (Prescott-Allen & Prescott-Allen, 1990). This trend is confirmed in more recent studies, showing that some main crops had their global land coverage expanded, at the same pace that the world population is converging in an increased homogeneity in diet patterns (Khoury et al., 2014). As a counterpoint, crop diversification comes to replace the old idea of monoculture systems to polyculture and agroforestry practices. Because of that, crop diversification can also entail that commercially crops, such as cocoa, will lost space to other subsistence crops. In a merely business perspective, this goes against the economic interest of having a stable and large supply of the main commercial commodities.

However, the idea of crop diversification when supported by companies can facilitate market linkages. Traders certainly deal with a range of different crops other than cocoa. By introducing the kind of crop they also have commercial interest in the crop diversification basket, it will establish a solid market flow for the growers. Farmers diversify their crops in order to guarantee a better livelihood by distributing income over the year and reducing their vulnerability (Fourcade, 2018). Being assisted by companies can help them to achieve this goal while they keep linked to global value chains.

The idea of crop diversification intrinsically projects the idea of having alternative sources of income other than the reliance on only one crop. This per se could be further explored beyond agriculture, and reach different fields to produce a higher income for cocoa farmers on non-farm activities (Knudsen, 2007). Different than agriculture and the harvest seasons as the income generating period, non-farm activities produces a stable income throughout the year (Yaro, 2006). In addition, development engagement around local communities promotes a link between urban facilities and the rural economy, leading to more income opportunities for the smallholders (Knudsen, 2007). In that sense, different actors could work together in promoting access and widespread of alternative activities around cocoa regions. This could be done by investing in local facilities for cocoa processing, for example.

2.6. Conclusion to background chapter

This background information allows us to take a step further on reflecting over the viable mechanisms and variables by which traders can take effective action in the complex cocoa web. More than that, this available information permitted this research to take a step ahead when framing the research questions and the data collection, in order to escape from common assumptions and pitfalls. The cocoa chain and the living income story are surely a complex network, and when combined they deserve a holistic view of how it is being unfolded on the ground.

3. Conceptual Framework

The Global Value Chain (GVC) theory as a frame of reference provides the theoretical foundation needed to understand how the relationships among different players are coordinated by governance instruments, and how these relations are spread across different geographic spaces (Gibbon, Bair, & Ponte, 2008; Global Value Chains, 2017). In other words, the aspects within the GVC framework also gives us the tools to comprehend how production and consumption of a given commodity are linked across time and space (Humphrey & Schmitz, 2004b). Furthermore, different governance arrangements of a GVC have different implications for development and for the environment. Understanding how these arrangements take place can give us additional insights in how to apply better development instruments in a more sustainable way (Gereffi, Humphrey, & Sturgeon, 2005; Ponte & Gibbon, 2005). Understanding the social networks established across certified global value chains are of high importance, given the fact that the final product obtains its aggregated value based on the social and environmental conditions that were unfolded over it, from its production to its consumption (Loconto, 2010). Certified labeled products bring together some of those social and environmental value aspects at the consumer's eyes.

In its birth, the GVC ideas have built their pillars on the Wallerstein and Hopkins world-system theory and its understanding of product flow in a value chain, which was basically characterized as "a network of labor and production processes whose end result is a finished commodity" (Gibbon et al., 2008 apud Hopkins and Wallerstein, 1994). The majority of the global cocoa-chocolate value chains comprise of a unilateral stream originating in the South and flowing towards the North, and it is highly based on small-scale farmers in Africa and Asia (Fold & Neilson, 2016; Langen & Hartmann, 2010). Therefore, these commodity transactions require a certain level of coordination and governance (Gibbon et al., 2008). In that sense, the GVC perspective assumes that actors in different locations but part of the same chain have the capability to influence one another (Global Value Chains, 2017).

The cocoa global value chain is characterized as a buyer-driven chain (Fold & Neilson, 2016). It is mainly due to its decentralized production base formed by millions of smallholders in one side, and by concentrated leading traders and manufacturing firms on the other side (Gibbon et al., 2008). This setting results in big companies having the highest influence and coordination power over the other actors across the chain. Buyer-driven chains are commonly seen in cheaper, high labor and less technological commodities such as cocoa, coffee or tea (Gereffi, Gereffi, & Fernandez-Stark, 2018; Global Value Chains, 2017). In a certified buyer-driven chain, the leading companies also establish and regulate the quality of the commodity, define the rules for participating in the chain and determine the labor division among other actors (Ponte & Gibbon, 2005). In other words, beyond the consumer's pressure firstly originated downstream, the decision to be certified also comes as a definition imposed from powerful companies against the production base.

In the case of the cocoa industry, two main company branches are in charge of the chain: traders and chocolate manufacturers. Intuitively, chocolate manufacturers would occupy the highest position in the chain in terms of owing power and influence, and therefore, governing the rules of the game. This might also be sustained by the fact that they are much more in the picture and constitute common household brands. However, traders are in some cases as big –

if not bigger –and as powerful as some of the manufacturing corporations (take Cargill as a trader example). Under these circumstances not necessarily brands as Hershey or Nestlé have the capacity of influencing the behavior of traders located upstream in the chain (Blowfield, 2003). We can conclude, somehow, that both traders and brands have the power to govern the supply chain, which justify shared responsibility being carried by both.

In 2005, Gereffi, Humphrey and Sturgeon identified three main independent aspects that rule the governance patterns and business relations in global value chains: "(1) the complexity of transactions, (2) the ability to codify transactions, and (3) the capabilities in the supply-base", giving origin to coordination governance categories. When plotted in a matrix, each of the three variables is classified in a high or low spectrum, which would result in eight different combinations. However, some variable combinations are given as conceptually implausible, thus five possible categories of coordination governance are emerged – market, modular, relational, captive and hierarchy. The governance types also give an insight about the degree of power asymmetry and explicit coordination among the buyers and suppliers within the chain, as seen in the table below (for a deeper contextualization, see Gereffi et al., 2005; Gibbon et al., 2008).

Table 1. *Key determinants of global value chain governance. Extracted from* (Gereffi et al., 2005).

Governance type	Complexity of transactions	Ability to codify transactions	Capabilities in the supply-base	Degree of explicit coordination and power asymmetry
Market	Low	High	High	Low
Modular	High	High	High	↑
Relational	High	Low	High	
Captive	High	High	Low	↓
Hierarchy	High	Low	Low	High

By analyzing the relations unfolded under the cocoa-chocolate framework, certified cocoa value chains can be classified as *captive chains*. "In these networks, small suppliers are transactionally dependent on much larger buyers. Suppliers face significant switching costs and are, therefore, captive" (Gereffi et al., 2005). These kinds of frameworks typically have a high level of control and monitoring executed by the leading actors, and there is a high cost involved on changing the suppliers upstream. This is due to the combination of having low supplier capacities but high complexity on product specification and on codification of terms among actors – shaped as transaction instructions (Gibbon et al., 2008). These factors require the need for control and intervention approaches in a large extent from leading corporations towards the smallholders, especially in certified chains. Also, there is the need of a certain level of physical proximity between the leading actors and the smallholders, in order to enable that monitoring and controlling activities are effective enough. This results in a higher dependence between them, as the companies will try to bond the suppliers as much as possible in an attempt to prevent competitors to benefit from their efforts (Gereffi et al., 2005; Ponte & Sturgeon, 2014). This gives birth to attempts of establishing long-term contracts between traders and growers.

So, in order to guarantee their stable access to cocoa, companies often invest in the value chain relations they have with smallholders through partnerships, and these are often held indirectly via cooperatives. Because of the widespread basis of the chain which contains millions of smallholders, holding relationships with cooperatives lowers the transaction costs and allows a better infiltration into de local reality (Gibbon, 2001). Accordingly, to Oomes et al. (2016), the results from these partnerships are not fully documented, but the positive potential impacts would be centered in higher productivity, payments of premiums and access to inputs and services; while the trade-offs would be this exacerbated captive relationship among them, further contributing to the low bargaining power of farmers and to the existing power asymmetries. In this framework, indicators to power asymmetries can point to the bargaining possibilities of growers, market information access by growers and possibility of establishing market relationship with different traders (side-selling). Although the incapability of having side market relationships does constitute a power imposition from companies, this is the viable way in which traders can avoid the drawbacks of the persistent informality and side-selling.

By itself, the cocoa chain is well-known by its high degree of informality. This informality under scarcity and unemployment circumstances generates space for more side actors to participate in the chain transactions. So, even transactions that were supposed to be simple end up being intermediated by multiple and complex networks. For example, the selling of cocoa beans from farmers to traders. Smallholders can make deals with cooperatives, bigger farmers, traders, middleman or cocoa smugglers, and these relations can be arranged and re-arrange multiple times following random paths. Plus, because of their intrinsic poverty conditions, actors often rely on third parts to transport their harvest, adding one more step into this complex pool of relations. This means that farmers are, in general, exposed to side selling even in circumstances of supply agreements. So, for companies to benefit from supply agreements, they necessarily need to impose a strong captive relation with farmers.

Regarding the complexity seen on the transactions, an increased complexity takes place when new requirements are added to a given value chain, particularly to the product itself or processes carried out (Gereffi et al., 2005). For cocoa, this high complexity can be explained by the certification standards themselves and their compliance at the field level. As already mentioned, being certified requires both human capital and financial inputs. Due to the difficulties in reaching both of them, not all growers can join certified chains. As a result of the combination between highly complex information with low growers' capacity, we can assume that the information cannot easily be transmitted or codified between the parties. In that sense, the efficient transmission of information and adoption of the standards demand investment and time. Given the poverty setting of growers, in general, both investment and time are efforts arising from powerful actors towards smallholders. This can be understood as a shared responsibility approach executed under strong market bonds among parties. By exposing that, it is evident that shared responsibility mechanisms can be better comprehended in the cocoa framework when analyzed under the captive governance setting.

In this context, shared responsibility is being driven by market reasons other than the primary goal of tackling human rights violations and abuses. Even though the triggers are not genuinely humanitarian, if the income gap can be reduced and poverty alleviated, the actions should be further promoted around cocoa regions and the relevant traders.

In parallel, a GVC approach further allows the understanding of how upgrading takes place among actors and their respective activities as a result of the global chain dynamics. Additionally, it also enables the identification of further opportunities for upgrading (Global Value Chains, 2017). Upgrading can be, therefore, understood as the conceivable capability of a company/actor to innovate in order to boost the added value of their products, services or processes (Giuliani, Pietrobelli, & Rabellotti, 2005). Bearing that in mind, cocoa smallholders in developing countries have the potential to reach better living incomes; improve the performance and quality of their production and final products; and/or enhance their market position through upgrading (Gereffi et al., 2005). However, upgrading opportunities to growers can be much linked to shared responsibilities approaches, which per se are dependent on their captive relations with more powerful actors.

Overall, being part of a global value chain itself is a relevant step to reach upgrading opportunities, as it places small actors and national economies under potential learning circumstances (Gereffi, 1999). Accordingly, to the upgrading nature, it can be classified as functional, product, process and inter-chain (Global Value Chains, 2017; Humphrey & Schmitz, 2004a). There are several available literatures analyzing how upgrading occurred in global value chains as a result of certifications schemes and eco-labelling adoption (J. Lee et al., 2012; Tran et al., 2013). Here, upgrading opportunities are also analyzed when obtained by shared responsibility interventions.

In the case of the cocoa certification, it clearly adds more value to the final product, automatically generating a product upgrading. However, the important point to explore is the potential upgrading added to smallholders themselves when they join a certified chain with strong captive links. Within these captive bonds formed between traders and growers, traders are clearly the “rules maker”, given their powerful position in the cocoa chain. As expected, these captive bonds set boundaries on the growers’ activities and contact with third parties. As a result, these boundaries can possibly lead to a limiting access of information, services and inputs; and therefore, limit the upgrading possibilities for growers as well. Therefore, the full understanding of all the possible mechanisms that shared responsibility can be applied by traders in their relationships with growers, also defines the possibilities for upgrading that they are exposed to.

In this master thesis, the GVC lens will provide the instruments to further investigate how power relations are unfolded among the different actors joining the cocoa chain, and how this can be reinforced when captive bonds are in the core of shared responsibility mechanisms. Understanding power relations are here also important to analyze how it leads to responsibility shifting among private actors in the cocoa chain. The concepts of upgrading will be used to understand the possible mechanisms by which a living income can be realized by the smallholders.

The GVC framework was chosen because it permits to analyze how actors in the same supply chain exert governance power among each other and how this influence the possibilities of upgrading from less powerful agents, represented by the cocoa smallholders. Furthermore, GVC gives the foundation for reflecting on the vertical and horizontal integration and this can benefit and promote a better flux of information and inputs in the whole chain, which can improve the livelihood of smallholders.

4. Research aim, research questions and research methodology

4.1. Research aim

This master thesis wants to further investigate the role of traders in engaging with more shared responsibility in the cocoa value chain. It is clear that traders are a pivotal actor in the cocoa chain and that their position in the stream can promote substantial change on reducing the living income gap among farmers. Therefore, this research will explore the possible mechanisms in which traders could better act in promoting shared responsibility in certified cocoa chains, accordingly to their own perspective. Shared responsibility will be described in terms of transference of information, financial resources, training or human capital from traders to farmers within certified cocoa value chains, and potentially resulting in the reduction of the income gap.

Assuming that there are existing barriers for some of their interventions, I want to understand how these bottlenecks can be overcome and a real action can be made. The information crossing between possible mechanisms against the existing barriers will map what traders can effectively do in future interventions to suppress living income issues. This mapping can be a useful tool for future interventions made by traders or promoted over the chain by certification bodies.

4.2. Research questions

Main research question:

What are the possible mechanisms through which traders can engage in more shared responsibility in reducing the income gap around cocoa farmers in certified global value chains?

Sub-questions:

What are the motivations for traders to engage in more shared responsibility?

What are the possible mechanisms to increase the living income of cocoa farmers from the traders' perspective?

Do certification schemes constitute a potential mechanism for shared responsibility in the cocoa chain?

4.3. Research Methodology

A qualitative approach was employed to answer the research question. The core data was collected by in depth interviews with companies and specialists of the cocoa chain. Some informal interviews were also conduct beforehand in order to better guide the topics to be discussed in the structured ones.

First, I focused on sustainability specialists employed by the main three traders in the cocoa value chain: Barry Callebaut, Olam and Cargill. All of these traders join certified and non-certified cocoa chains, and therefore, a comparison between the possible mechanisms in certified chains and non-certified can be made. Although the traders sampling is small, their representation in the cocoa sector is great and constitutes a big part of the whole. Interviewing more companies could result in a theoretical saturation, which is the point where no new conclusions or trends could be extracted by new data/interviewees (Guest, Bunce, & Johnson, 2006).

CocoaSource, a niche trader, was included in the interview pool to understand the possible differences between a major and niche trader. Furthermore, CocoaSource is part of the global value chain coordinated by Tony’s Chocolonely, which was also interviewed. Tony’s chocolonely claims itself as a responsible company in terms of delivering a living income to cocoa farmers and having a sustainable sourcing, by eradicating occurrences of child labor and slavery (Tony’s Chocolonely, 2019). Because of these public disclaimers, Tony’s Chocolonely was selected in the data collection.

A deeper analysis on how certification standards could eventually help the interaction among stakeholders and the appliance of shared responsibility towards cocoa farmers was also conducted by analyzing the chain of custody certification. For that purpose, Rainforest Alliance, UTZ and Fairtrade labels were selected for two main reasons. One, they have an expressive participation in the cocoa market; and two, they are a consistent certification label, in which not only the poles of the chain – growers and brands - are certified but also the processes and actors between them. So, traders, which are the main focus of this master thesis, are subjected to the certification arrangements as well. Fully investigating the labels was the step to elaborate on my hypothesis that the integration seen in certified chains might constitute a favorable environment for inputs transfer between traders and farmers, and possibly reduce the income gap experienced by cocoa farmers.

Interviews with experts in the cocoa chain were also made. Experts were identified by their academic or professional background related to the cocoa and chocolate chain. Therefore, the dynamics and mechanisms exposed by the traders’ interviews can be better understood. In total, 17 interviews were conducted. In the Appendix I, it is listed the names (when allowed to be disclosure by the interviewee) and the organization they join.

The idea was to explore the individual experiences and perceptions of each organization in rich details, and by that, compare the results and identify the common insights among the participants. The conceptual framework of global value chains was used to frame the interview questions and its results, which had the format of semi-structured interviews. The interview guide is placed in the Appendices.

They were all conducted using online platforms and recorded when allowed by the interviewee. By the recordings, the interviews were transcript and qualitatively analyzed using Atlas. Through establishing codes, the interviewees' positions could be systematically evaluated and compared by topic, organization - public, private or civil -, and outcome.

All the interviewees were informed about their respective citations, in order to obtain their full consent to be quoted. Some of them proposed texts adaptations to clarify their position, or in some cases, to adjust to their organizations' guidelines. When the proposed adaptations were too expressive to the point of deviating the main idea, I decided for withdrawing the quotation in reference.

Review of the available literature on shared responsibility, cocoa value chain, fair trade, global value chain framework, power relations, governance mechanisms, chain of custody certification and living income was also conducted, considering scientific articles but also performance and evaluation reports executed by relevant organizations and certifiers.

Scope and Limitations

The interviews were conducted with only a few players of the global cocoa value chain, in which a special focus on traders was given. Therefore, the results can not necessarily represent the position of other stakeholders in the chocolate-cocoa chain. Furthermore, one important limitation of results coming from interviews is that respondents are more inclined to provide socially acceptable discourses, which not always reflect their real conducts (Clifford & Jerit, 2015). It can also be the case that companies do not want to share some information that they may judge as sensitive for marketing and strategic reasons.

Additionally, because of its qualitative nature the replicability of this research is limited. Factors such as trust, openness and framing of the interviewees can give floor for different interpretations accordingly to the interlocutor.

5. What are the motivations for traders to engage in more shared responsibility?

5.1. Introduction

This empirical chapter will discuss the actual motivations behind the traders' efforts in transferring information, financial resources, training or human capital to cocoa farmers. The literature often points to the main fact that they want to **secure a stable cocoa supply** in response for the growing demand in the chocolate global value chain, and the imminent chances of supply shortages (Barrientos, 2014; Cappelle, 2009; Squicciarini & Swinnen, 2016). This was actually very much emphasized by the interviewees. Beyond that, they often pointed to company's reputation and risks mitigation, both factors are somehow linked to the consumers' demand.

Therefore, shared responsibility interventions initiated by traders are primarily being driven by market reasons other than intrinsic goals of tackling human rights violations and abuses. Even though the triggers are not genuinely humanitarian, if the income gap can be reduced and poverty alleviated, the actions should be further promoted around cocoa regions and the relevant traders. Overall, the actions taken by traders fit in the global context of Corporate Social Responsibility (CSR).

The level of responsibility of traders was also confronted with the role being performed by other private actors in the chain, namely chocolate brands and retailers. This chapter then further explores how the powers relations are unfolded among these private actors and how governance instruments and coordination enable the responsibility shifting from one actor towards another. Although out of the private sphere, consumers have a substantial level of responsibility as well, and they are important drivers for change. Inherently, the consumers' demands are behind the motivations for many efforts being put in place by companies. Because of that, their role will also be part of the discussion in this chapter.

5.2. Motivations for action – a business perspective

Via the data collection, the motivations behind grinder's interventions on generating a better living income to farmers can be summarized in two main topics: **secure a stable cocoa supply** and **risk mitigation.** Both topics also fit under the umbrella of **consumers' demand.** It is important to point out that there is not a strict line that separates actions taken for one purpose from the other. Rather, these motivations assume blurred nuances among each other, with concepts being often overlapped in the business realm. To bring that to a logic reality, we can say, for example, that securing a stable cocoa supply is per se a risk mitigation practice in a long-term perspective in response to the increasing consumer's demand for cocoa; or that consumers are increasingly demanding sustainable sourced cocoa and to avoid reputational risks, corrections on the chain should be done. In summary, for this topic a mixed approach correlating the different points is more reasonable than discussing them in isolation.

"Companies want to secure their accounts by having enough cocoa and enough costumers. It's marketing. You should also not tell any bad stories against the product you are selling, or you will not sell anything. […] Every company should make money in their business. This is the definition of sustainable supply chain, that everyone within the supply chain has enough money to make a living. Sustainability is for everyone, for the farmers, for exporters, traders, grinders, brands and retailers"

(Augustin Planty, CocoaSource – Jun, 2020).

"Supply and reputational risks: those are the two sorts of areas of motivation. Number one, the supply: having poverty, hunger, child labor in your chain is not good for a stable supply and for the long term. We need to recognize that there aren't endless places where you can just cut down trees and grow cocoa, this is not longer possible. We need to have stable supply chains that don't have a lot of social and environmental conflicts in it. This is from a purely business sense."

(Stephanie Daniels, Sustainable Food Lab – Jun, 2020).

"*There are two ways of seeing motivations. One is to get access to the beans and that's very important. And the second thing is to satisfy the concern of the consumers mainly about deforestation and child labor."*

(Maja Slingerland, Wageningen University and Research – Jun, 2020)

As cocoa is not replaceable by any other raw material, improvements applied to the life condition of farmers would hold them in the primary production and, then, avoid their migration towards other cash crops or other income generating activities. A fairer environment would also encourage young farmers to start or keep growing cocoa. By this means, shared responsibility in the cocoa framework have the role of maintaining the survival of the global value chain itself by increasing its stability in a long-term perspective. Here, sustainability approaches need to be explored with a more everlasting spectrum.

We can roughly see this perennial maintenance strategy as one mechanism for upgrading in the cocoa GVC. However, it is important to point out that the GVC framework itself does not provide a specific concept that would fit this long-term survival of the chain within its upgrading grouping. In a holistic manner, this kind of upgrading is becoming more and more relevant to be analyzed nowadays, especially when we consider the ongoing process of urbanization and the high number of individuals worldwide that are abandoning farming activities to other sectors, such as industry or services. Therefore, although very relevant to cocoa, other primary production sectors of staple and cash crops may face the same inconsistent future particularly in Asia and Africa (D'Amour et al., 2017).

Following this parallel, securing a **stable supply of cocoa** indeed assumes a primary position among the motivation for grinders to promote changes in the chain. To further understand how and why this is specifically important in the cocoa chain, it is relevant to trace parallels among different tropical cash commodities, such as other perennial tree crops.

The production of cocoa is largely dominated by Africa, with a perceived declining in America from the 80's and in Asia from the early 2000's, as seen in the graphs bellow. The African dominance reaches out more than 70% of the world production, and it is basically concentrated among four local players: Ghana and Côte d'Ivoire being responsible for 2/3 of the world beans, and the remaining is distributed basically between Nigeria and Cameroons (FAO Statistics, 2020; Läderach, Martinez-Valle, Schroth, & Castro, 2013).

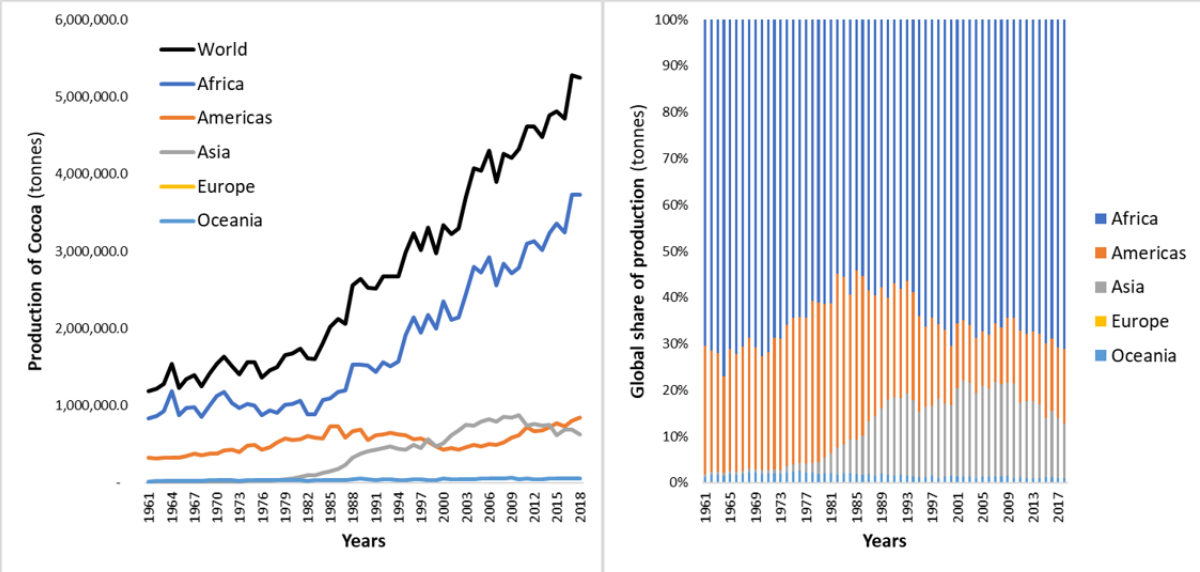

Figure 4. *Production of cocoa and global share per continent. Data extracted from FAOSTATS (2020).*

What these figures basically show is that there are not many alternative countries to shift the production of cocoa out of the mainstream players in a scalable way. Cocoa as a typically Southern crop is grown between the humid tropics (World Cocoa Foundation, 2014), where the condition is favorable for the cultivation of other cash crops as well, with special attention to perennial tree crops – rubber, palm oil, cashew and coffee (Fourcade, 2018). Given the poverty trap that cocoa smallholders are inserted in and their vulnerability to international prices, cocoa seems to be the least interesting option nowadays.

> *"There is a major risk that sooner or later people will stop growing cocoa [...] Look at Brazil or Indonesia, they are producing less and less cocoa, because they are upper middle-income economies. If tomorrow a major producing country becomes an upper middle-income country, an emerging economy, they may well produce less and less cocoa."*
>
> **(Michel Arrion, ICCO – May 2020).**

To make an easy comparison, the first graph below shows the estimated revenues for cocoa and rubber per hectare in Ivory Coast between 1986 and 2008, which clearly expresses the prevalence of higher prices for rubber than for cocoa. The same trend is followed by palm oil in comparison to cocoa in Indonesia. It is worthy to mention that this price difference is stated as the main cause for the conversion of smallholders from cocoa to palm oil in North Sumatra, the main cocoa region in Indonesia (Nasution, Supriana, Pane, & Hanum, 2019).

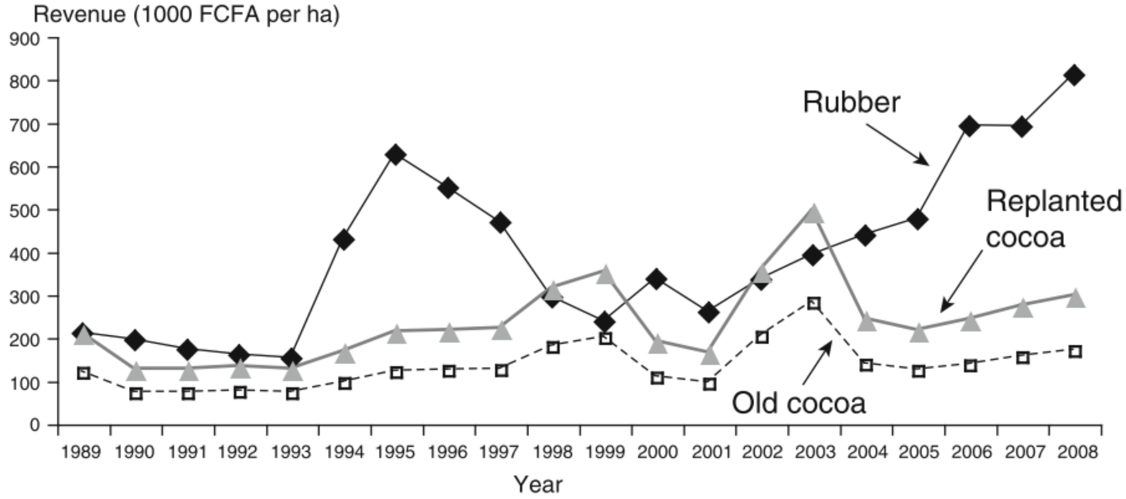

Figure 5.*Estimated mean revenues for cocoa and rubber per hectare in Ivory Coast between 1986 and 2008, expressed in West African francs. Graph Extracted from Fourcade, 2018 in reference to* (Ruf & Schroth, 2013)*.*

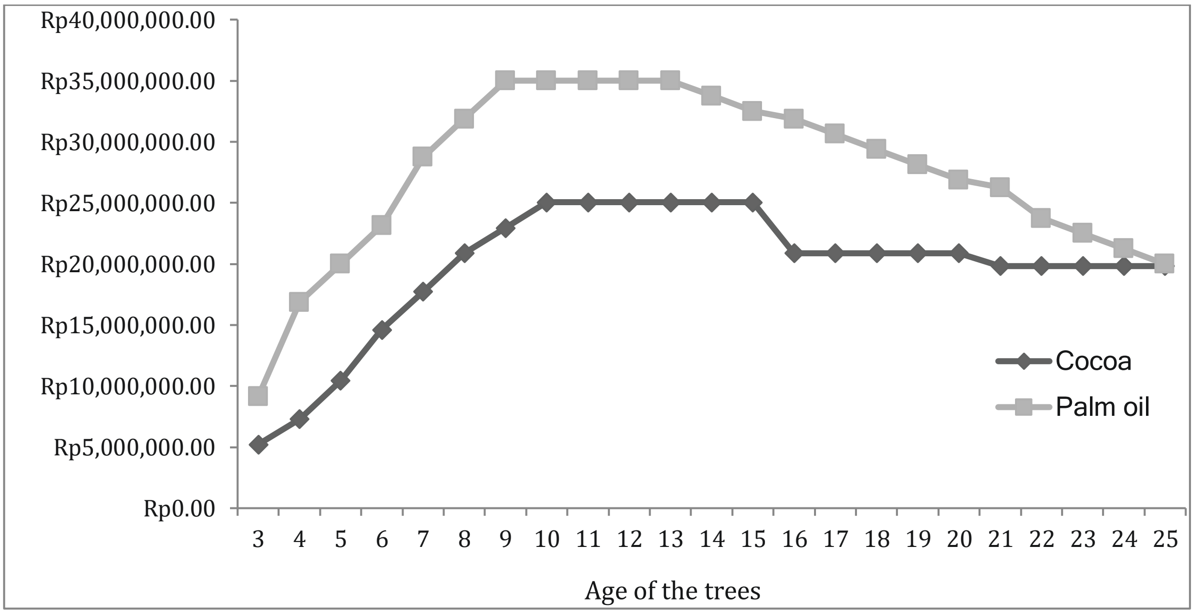

Figure 6. *Estimated price revenues for cocoa and palm oil per hectare in Indonesia, expressed in Indonesian rupiahs. Estimations were calculated based on the average farm gate prices in early 2018 for both commodities, contrasted with the age of the trees. Data collected from* (Nasution et al., 2019)*.*

It is important to realize that given all the socio-economic constraints intrinsically linked to the cocoa production in Africa; cocoa is becoming less and less attractive to young farmers. There is a general understanding that the long-term durability of cocoa is under risk because of the inability of the sector to encourage the youth (F Baah & Anchirinah, 2011). Recent studies show that the mean age of cocoa farmers fluctuates around 55 and 49 years old in Ghana and Ivory Coast, respectively (F Baah & Anchirinah, 2011; Ingram et al., 2014). This age distribution also has a direct effect on the elasticity by which farmers adopt new in-field technologies and better agricultural practices. On other words, there is a straight correlation between older farmers and less openness to innovation. The overall result of that is the ongoing low productivity level generally seen around West Africa farms (Bymolt, Laven, & Tyszler, 2018).

In parallel, there is indeed a tight link between cocoa production and deforestation and it is very known that the expansion of cocoa production over the years has happened at the expense of primary forest (Rice & Greenberg, 2000). As a consequence, the recurrent deforestation around the plantation areas has resulted in a drier local climate, which negatively affects the optimal growth of cocoa, given its high humidity requirements. This further contributes to the low yields. In contrary other cash crops, such as palm oil, rubber and cashew respond better to drier microclimates and can be a better option (Bymolt et al., 2018).

All these factors acting in synergy are components of the background scenario that gives the grinders the need to act and make the cocoa sector more sustainable in environmental and socio-economic terms. In addition, much was said about **minimizing the risky setting** that the chain is immersed in. On other words, a chain that is known by deforestation, child labor, slavery, poverty traps are not sustainable in economic, social and reputational terms. Having issues like that are an intrinsic risk for the supply chain, so managing and reducing them have an economic footprint as well, which again benefit not only the stakeholders but also the company's shareholders.

> "*There are some specific niche markets, and to supply that market you need to make sure that further upstream or actually throughout the supply chain you have done a good job in terms of sustainability. You can see that also from a risk perspective. A business having issues like deforestation, child labor, low farm household income is definitely a risk you need to manage, to mitigate, to reduce and to remediate to keep going".*
>
> **(Patric Brandt, Cargill – Jun, 2020).**

The general awareness on environmental and social issues at the consumers' node has prompted initiatives around the private sector to extinguish deforestation practices, extreme poverty and child labor occurrences out of their supply chain operations (Lambin et al., 2018; Molenaar & Short, 2018; Thorlakson, 2018). Beyond the civilians expectations on sustainable consumption, having these goals as part of CSR approaches "improve branding and consumer loyalty, reduce reputational risk, increase market shares and profits, mitigate potential losses of critical environmental services and ensure long term supply" (Lambin et al., 2018). So, the results of good CSR are all part of a business package to sustain the company in the market for a long-term while answering to the consumers' demand.

5.3. Level of responsibility among private actors – the relationship among grinders, brands and supermarkets

Naturally, there is always a discussion to what extent lays down the responsibility of private actors in comparison to governments in complex environments, such as the cocoa network. This discussion is even more relevant when states are weak, and there is a lack on the provision of basic public services (Boström, Jönsson, Lockie, Mol, & Oosterveer, 2015; Eakin et al., 2008). Moving a bit forward, this discussion on the level of responsibility comes also to complex grounds even when we only look to the realm of private actors and their role of implementing more sustainable practices in global value chains. Framing this discourse at the cocoa value chain, it would be whether or not it is reasonable to attribute different levels of responsibility to traders, brands or retailers/supermarkets.

From the CSR point of view, companies are held responsible also for activities conducted by third parts partners and intermediaries in their chain, even though they have no ownership relations with them (Maloni & Brown, 2006). This can be translated to the core idea that all the different company branches share a common level of responsibility when it comes to delivering a living income to cocoa farmers. On other words, if their role goes somehow beyond their own ownership boundaries, the responsibilities of all private actors are intertwined in a diffuse and spread spectrum, where interconnections and overlappings are common. This shared duty was also pretty much observed by the interviewee's discourses, being them either from traders, NGOs or public sphere. So, even though grinders are not always very susceptible to public pressure given their position in the chain, their responsible practices are also put in practice as a result of the CSR hold by brands and initiated downstream from the consumers side, or vice-versa – which is less common.

> "*What we basically feel is that everybody's responsible. Everybody needs to work on this issue of income. Because it's not something that one part of the supply chain can address. Everybody has to."*
>
> **(Alex Ferguson, World Cocoa Foundation – Jun, 2020).**

> "*It is not for private companies only to completely fix the problem of child labor and deforestation. This is the main role of the states. For the living income, this is a movement that should come from the industry, which includes traders."*
>
> **(Michel Arrion, ICCO – May, 2020).**

With that in mind, the discussion then takes a more fundamental degree. The position that a certain company is at the chain would rather then determine *how they can take* action and *what they can do* to promote improvements; and not to what extent they have responsibility – or not. In the specific case of traders for example, despite quite far from the consumers' node when compared to brands or retailers, they are the ones with a strong presence in the ground around cocoa areas. This enables them to know and understand more the reality and the struggles of the smallholders, due to their literal physical presence. Undeniably, the full understanding of the particularities in a given place allows them to design tailored interventions that take the local shape and can actually work. On the other side of this framework, we have the brands who, given the proximity, can communicate with the consumer and therefore internalize their demands upstream and deliver the desired outcome in the final product. Overall, there should not be a responsibilities division but instead a task division, in which the company's operation, expertise, position in the chain and interaction with internal and external stakeholders would determine the way to go.

> *"Olam is operating close to farmers, with one of the strongest footprints at origin in the industry, while still being one of the largest grinders. Olam interfaces on the one hand with the farmers and on the other with chocolate manufacturers, who themselves interact with consumers. While being Olam's customers, the manufacturers have the important function of bringing to us the perspective of the consumer. [...] But in the end, the whole sector is working together"*
>
> **(Pierre Broun, Olam – Jun, 2020).**

Although good in theory, the real life shows us that mechanisms of governance coordination at the chain can also give rise to responsibility shifting and fingers pointing between private actors. To illustrate how this is unfolded, we need to touch upon *profit margins* and *power relations in the cocoa-chocolate* global chain.

Economically speaking, traders and grinders profit margins are reported to be lower when compared to brands or retailers (Fountain & Hütz-Adams, 2018; Oomes et al., 2016). So, the profitability made by this kind of company lays on their efficiency on moving and grinding huge volumes in an economy of scale. As a business to business sector, the grinding process does not add a lot of value to the commodity when compared to brands that mix cocoa with other ingredients to produce chocolate or snack bars, and this is also reflected in the profit share of each sector. According to the Cocoa Barometer released in 2015, the value addition of beans processing is 7.6% of the final product, while the one for chocolate manufacturing (brands) is 35.2%. On the top of that is the retailers with a share of 44.2% (Voice Network, 2015).

As a result, there is a feeling smoothly presented by the interviewees that traders have some limitation on their investments on sustainability programs because of their low margins. In opposition, retailers – who have the biggest profit bite - are not even included in sustainability programs. A good example of their absence in these programs can be seen at the chain of custody certification, which initiates upstream around the primary production and ends up at the manufacturer and exempts the retailers from any responsibility on attending the label standards. Somehow, their power in governing the chain is so significant that they can shift out their responsibilities almost completely. This makes an important contrast if we consider that they are the ones with the biggest profit margin in the whole chain.

> *"They (traders) are very low margin businesses [...] And then we want them to map all the farms for deforestation, we want to know information by gender, people's income, we want to know if there's child labor, you're layering on all of these sustainability demands on a business model that's not set up to it. It doesn't have a margin built in. So, the traders have had to respond over the last decade and figure out different ways of doing this. And I'm not saying it's not their responsibility, but they've had to really change their business model."*
>
> **(Stephanie Daniels, Sustainable Food Lab – Jun, 2020).**

Especially in food global value chains, retailers occupy such a position in which they can not only turn their own operations more sustainable, but also drive whole food system transformations, reshape supply chains and persuade consumers (Jones, Comfort, & Hillier, 2012). Chkanikova & Lehner (2015) argue that the lack of participation on sustainability standards is actually an issue for retailers, because this put them out of decision-making processes among suppliers or in exerting pressure for the adoption of better practices. However, in contrary, this is in fact the means by which they can claim themselves unaccountable for irresponsible practices happening on certain products, in a responsibility shifting mechanism. To support this argument, Jones et al. (2012) further reinforces that the intermediate position of retailers which links manufacturers to consumers is powerful enough to "drive sustainable consumption in three ways namely through their own actions, through partnerships with suppliers and through their daily interactions with consumers". In addition, Gereffi et al. (2005) states that global buyers "can and do exert a high degree of control over spatially dispersed value chains even when they do not own production". Large retailers have indeed an influence on the way food is cultivated, manufactured and presented to end buyers (Burch, Dixon, & Lawrence, 2013).

In the case of supermarkets, this control is basically done with prices. Very differently than smallholders, retailers are price setters and not price takers (Voice Network, 2015). By setting up the price they want to buy from manufacturers, they guarantee their high profit margins while offering cheap products to end consumers. These prices are often set without covering the minimum costs for a sustainable production, but allow them to maintain their business model of delivering low prices to consumers (Willoughby & Gore, 2018). Another common situation by which this control is exerted is that retail prices normally accompanies any increase on the price of cocoa beans, but they do not go down proportionally when cocoa beans are cheaper (Oomes et al., 2016). Because they often refuse to put products with higher prices on their shelves, this ends up limiting the possibilities of improvements being done upstream by grinders and manufacturers, which are held responsible from the consumer's perspective.

Overall, it is becoming more and more recognized among different actors in the supply chain that the role of retailers is somehow neglected in front of all the issues in the cocoa framework, and they should be more on board also in terms of living income.

> "*We don't speak of the retailer when we speak of supply chain, but they are key. Because they are too powerful in Europe and we fear to have them against us [...] I think we should take the retailer on board to be fully integrated from the farmer to the consumer. Today we are fully integrated from the farmer to the brand, but it is missing the last part of it which is the retailer.*"
>
> **(Augustin Planty, CocoaSource – Jun., 2020).**

Even hypothetically considering that retailers are not part of a certified cocoa global value chain, this would not necessarily exempt them from be held accountable, as the concept of CSR travels also outside the company's boundaries.

5.4. Conclusion

This present chapter discussed the different nuances in the background of grinders' interventions to promote a better living income to cocoa smallholders, and how the level of responsibility is distributed among the different private actors in the chain.

Overall, the sustainability of the chain in a long-term perspective is the main motivation to promote change in the primary production, and therefore, answer to the consumers' demands both for a more sustainable sourcing and consumption increase. This was equally echoed by private actors, public sphere and civil branches (NGOs and academia). Look at the motivations require a more holistic view than looking to the different points in isolation because of their dependence among each other.

Secondly, it is clear that private actors do not differ on their responsibility degree in delivering a living income to farmers, but their position in the value chain determines what kind of action they can put in place. There should not be a responsibility division, but a task division accordingly to the company's expertise, position in the chain and proximity to smallholders and/or consumers. This is clear especially when it comes to grinders and brands, whereas retailers are not often held accountable for social and environmental violations upstream in the chain, and also do not integrate sustainable programs. Because of their power to dictate and influence the whole value chain system, they must take more responsibility when it comes to delivering a living income to smallholders.

6. What are the possible mechanisms to increase the living income of cocoa farmers from the traders' perspective?

6.1. Introduction

This chapter maps alternative mechanisms other than price, by which grinders can engage in more shared responsibility in delivering a living income to cocoa farmers, also considering the barriers in place to do so.

For a holistic approach, the discussion here goes beyond by simply enhancing the price because the poverty faced by cocoa smallholders is part of a wicked framework, in which different leverages must also be taken into account simultaneously. Also, the concept of living income itself gathers the fulfillment of several basic human needs, which can eventually be achieved by the provision of additional assistance and services, other than money itself. Furthermore, private organizations often link the prices with the global market laws, which in the case of cocoa is governed by the Intercontinental Exchange Europe (London) and US (New York) (ICCO, 2016), and therefore is "beyond their willingness" to change or to make it higher. And naturally, world prices can volatile a lot based on supply-demand fluctuations, market speculations, investments considerations and currency movements (Agritrade, 2012). In fact, a lot of interventions in the cocoa sector promoted by multinationals in the cocoa chain are focused on investments at the community without following the fair trade rhetoric of higher farm gate prices (Abbot, Wilcox & Muir, 2016).

It is worthy to mention as well that a few producing countries establish some sort of internal price control mechanism, in an attempt to secure a minimum farm-gate, guarantee a sustainable livelihood to cocoa growers and define quality standards (Bymolt et al., 2018). This is specially the case for Côte D'Ivoire, the largest cocoa producer globally.

There, since 2011, the Ivorian market was then centrally organized by *Conseil du Café-Cacao* under the local government responsibility (Laven, Buunk, & Ammerlaan, 2016). From the international benchmark price, the relevant government body determines the minimum farm gate price locally, which is a result of the price paid in auctions for future sales, before the new crop season starts (Malan, 2013). Through these auctions, between 70-80% of the next year production is sold in advance to exporters. From the final price sold, about 60% goes to the farmers, while 40% is retained by the government as taxes (Agritrade, 2012). As a result of this price control, a differentiation on price based on higher quality standards, for example, is not possible in Côte D'Ivoire. In this case, companies do not have the means to automatically pay higher prices. However, the payment of certification premiums on top of the established price is still possible (Bymolt et al., 2018). This framework further explains why alternative mechanisms other than price are very relevant to be put on the discussion table.

In addition, discussions on price often raises questions on which price is reasonable to be paid given all the different reality of farmers. What I mean is that also for price there is not a fit-all solution that would deliver the desired outcome. If we, for example, start from the point of a farmer owing 3 hectares of cocoa, having a good productivity level helped by good agricultural techniques and inserted into a certified chain; in contrast with a farmer with the same field size, but low productivity rates and not joining a certification scheme. How much should the price per ton be set to guarantee a living income for both smallholders, considering a household compounded by 6 members living in Côte D'Ivoire?

Naturally, the same calculation does not apply if we look to a smaller field or a bigger family and so on. This shows us the need for a discussion on a deeper level with the promotion of relevant structural changes. In addition, there is the importance of tailoring and grouping farmers according to their features that, although obtained with high transactional costs, would guarantee a fair distribution of resources among them.

So, over this chapter those alternative mechanisms beyond price will be explored through the lens of chain upgrading in accordance with their nature of intervention and desired outcome. They will be divided on four types, following Humphrey and Schmitz (2002) classification of: *process upgrading, product upgrading, inter-chain upgrading* and *functional upgrading*

6.2. Alternative mechanisms of action: mapping opportunities for chain upgrading

By concept, chain upgrading and poverty alleviation are important ideas that when combined are efficient tools to design interventions in developing countries (Gibbon et al., 2008). Here, upgrading opportunities are not only linked to the incorporation of new capabilities, but also in how relationships with traders and the market are unfolded and can lead to positive impacts (Humphrey, 2004). In this chapter, the GVC and upgrading approach will help us to understand how traders in the cocoa value chain can apply efforts and improve the ability of smallholders to generate more value and therefore extract more inputs from their activities in order to reach a living income. Important bottlenecks that hamper these mechanisms to flourish will also be discussed.

6.2.1 Process upgrading

"Transforming inputs into outputs more efficiently by reorganizing the production system or introducing superior technology" (Humphrey & Schmitz, 2002).

Because of the low income obtained from cocoa, farmers have a low capacity to engage in process upgrading without an external aid (USAID, 2006). So, understanding the process upgrading with the support that traders can provide to smallholders entails a reorganization of how farmers operate their farming system in order to obtain higher returns. Therefore, process upgrading will be discussed in this session in terms of *yields, strengthening cooperatives* and *access to finance.*

a) Yields

From the farming perspective there are basically two ways of action to promote income improvement: either paying more for weight unit or *increasing the productivity per hectare* (Molenaar & Short, 2018). Investing on yields has a special compound for traders, because this also works towards their primary goal of securing a stable and sufficient cocoa supply, without touching upon price. Because of that, this is basically the main term by which interventions are put in place by traders at the ground.

> *"That's a discourse that you hear a lot from the traders who say price on its own won't change. So, they go towards productivity and say, if we can increase productivity, then we can help farmers to have more income, and I don't believe either of them will, I think it's not one or the other. It's a combination of both. And it's very much in the interests of the traders to say that price won't make a difference because that is the least cost option for them."*
>
> **(Verina Ingram, Wageningen University and Research – May 2020).**
>
> "*Definitely cocoa productivity is the main variable in terms of income generation, it's by far the most important one."*
>
> **(Patric Brandt, Cargill – Jun, 2020).**
>
> *"We're teaching, and companies do this mainly with cooperatives, to teach good agricultural practices so that they get more yields, but in a way that doesn't destroy the environment".*
>
> **(Alex Ferguson, World Cocoa Foundation – Jun, 2020).**

However, when discussing yields, counterpoints between macro and microeconomics (farm gate) need to be balanced. The overspread of productivity increasing programs and agricultural extension is unquestionably favorable at the farm gate level, because of its inherent capacity of income improvement. More cocoa just simply means more money for individual smallholders. Nevertheless, at the macro level if a substantial amount of farmers are reached by these programs and indeed have their productivity increased, we have a big production push which may results in an oversupply, and a reduction of the farm gate prices (Oomes et al., 2016). This is basic economics: an oversupply automatically leads to price decline on the international exchange markets.

The most recent example of this phenomenon took place in 2016 when cocoa surpluses, especially led by an overproduction in Côte D'Ivoire, caused the second historical largest cocoa production and made international prices decline by 58% between August of 2016 and May 2017 (Pipitone, 2018). Although productivity improvements did contribute to this final output, much of this surplus is attributed to the terrestrial expansion of production into protected forest (Aboa, 2018a).

In an attempt to self-protect its economy and the smallholders underneath, the *Counsel Café-Cacao* in Côte D'Ivoire set some measures in 2018 to limit the distribution of inputs and the placement of programs initiated by private actors that would help farmers to increase their yields, and in this way, avoid surpluses and consequently, sharp price declines (Aboa, 2018a). Improvements on yields still relevant though in some other cocoa production areas, particularly considering that the productivity in some countries are still far beyond the nominal value.

Another important insight that we can take from this discussion on yields is that the high dependence of farmers on cocoa gives them a lot of uncertainties, either in the case of low or high productivity, because they are equally exposed to market vulnerabilities, and some other major factors. So, the discussion on yields must always come accompanied with some holistic approach and tailored interventions. This broader view requires then inputs coming from other actors' spheres, especially from public instance, who best know the local circumstances.

B) Strengthening and professionalizing cooperatives

Undeniably, cooperatives bring simultaneously benefits both for farmers and companies in the supply chain. They somehow work as a shortening mechanism for the value chain, in which smallholders can be better reached and linked to global networks (Molenaar & Short, 2018). There are clear evidences of the improvements that cooperatives can bring to the health, income and quality of life of the surrounding community (Calkins & Ngo, 2010). As a result of the high illiteracy, low education, absence of market information, vulnerable property rights, poor infrastructure and insufficient communication; smallholders face elevated transaction costs when dealing with traders, and the cooperatives also comes in a way to turn this relation less uneven (Ortmann & King, 2007). As a whole, cooperatives constitute a linkage between smallholders and the possibilities for their upgrading. Because of their position, cooperatives both serve as "influencing and influenced variables" on promoting the smallholders' development (Arsyad, Nuddin, & Yusuf, 2013)

From a vast spectrum of improvements, cooperatives have primarily the possibility of increase the bargaining power, promote income generating activities (income diversification) and access to inputs from the side of farmers; while facilitates communication, engage stable relationships and reduce the transaction costs from the side of traders. Overall, from the two sides, cooperatives have an important role to play when it comes to living income.

> *"So, you need to go further than the price of course, you have to go through the organization of the society and also empowering the cooperatives, the Farmers Union. As long as the farmers are illiterate and unorganized, they will have no bargaining power when giant companies comes in [..] So you have to organize the farmers.*
>
> *[...]*
>
> *One of the objectives of the big grinders and the big traders is to reduce the number of middlemen and have the direct contact with the cooperatives. Before that you need to have bigger and bigger cooperatives. So, we are again back to the point of how do we organize the farmers into small cooperatives? How do we organize those small cooperatives into a federation of cooperatives? How can you organize the traceability from the farmer from the small cooperative to the big cooperative? And then you build a net of financial transaction without having the middlemen making margins. So, you make more money of course. You shorten the transactions. Currently between a plantation and the port of shipment in Cote d'Ivoire, you can have six or seven transactions."*
>
> **(Michel Arrion, ICCO – May, 2020).**
>
> *"We only work with farmer cooperatives, because we believe that if farmers work together, this is more sustainable. And they can also have some economies of scale. If you work together as a group, you can buy cheaper inputs, and you can negotiate better prices towards service industry. So that's why we only source*

from the cooperatives […] So we buy cocoa in Ghana and Ivory Coast, from seven cooperatives. And there are a lot of projects there to make sure farmers can realize a living income."

(Henk Veldman Veldman, Tony's Chocolonely – Jun, 2020).

"*But the cooperative is the vehicle of going to the farmers and we cannot do it ourselves directly, would be too big […]*

I think between the farmer and the cooperatives there is only one transaction. And then cooperative to us, we import, export to traders. I would say three people before the trader: farmers, cooperatives and exporters."

(Augustin Planty, CocoaSource – Jun., 2020).

Cooperatives were commonly mentioned as the pathway to facilitate the realization of some other important upgrading goals, which will be discussed all over this thesis (such as gender empowerment, access to finance and income generating activities). So, it is crucial to understand that the creation of cooperatives promotes a fruitful environment for important development interventions to flourish. More than that, cooperatives have shown to have an ample scope, in which its benefits are felt and seen by the surrounding community that not necessarily is composed by participating members (Mhembwe & Dube, 2017). So, because of this global reach, the discussion on cooperatives is not limited to this section, but it is extended as a background condition for additional transformation pathways to take place.

Although often discussed as an important strategy for cocoa smallholders, there are still some relevant pitfalls that avoid bigger developments to be unfolded as a result of their strengthening. Issues such as corruption, mismanagement and power imbalances can all direct influence the transaction costs between smallholders and traders.

Agricultural cooperatives were very stimulated by state leaders in the post-colonial Africa around the 50s as a government extended arm to accelerate economic development and induce social adherence. As a result of that, they were not completely independent but rather subject to the control of the states (Okem & Stanten, 2016). They were even seen as a way by which the government could further implement and infiltrate their policies around the population (Hartley & Johnson, 2014).

Yet, evidence shows that the control of states has led to some structural problems within the cooperatives which were reproducing the lack of norms seen in the states themselves. Even though the state control has been reduced and discouraged in the management of cooperatives over time, occurrences of corruption, elite benefits, power abuses, lack of internal democracy and mismanagement are still part of the cooperative's reality (Calkins & Ngo, 2010; Okem & Stanten, 2016; Hartley & Johnson, 2014). When these practices are in place, the low transactions costs regularly expected by traders when dealing with cooperatives are replaced by higher costs, with reduction on the level of trust and loyalty between the parts.

Because of that, it is important that the support of traders towards cooperatives comes accompanied with constant educational and professionalization inputs, which have shown to have good effects on the management and benefit of all members (Baah, 2008).

Indeed, cooperatives have a mixed legacy of benefits and pitfalls over time. Regarding the positive results, here they will be discussed in terms of **facilitating the accessibility to additional services, information, inputs and technologies; and improved bargaining power,** which were common topics quoted by the interviewees. The cooperatives strengthening per se will be treated primary as a functional upgrading, although the secondary results of it may fall under different upgrading categories.

B.1) Facilitating the accessibility to additional services, information inputs and technologies

In those settings where public services are constantly lacking, cooperatives can additionally give rise to the provision of these important services as a compensation for the government failure (Bernard & Spielman, 2008; Calkins & Ngo, 2010). The literature also shows evidence that the creation of cooperatives commonly occurs where there are severe public deficiencies, in an attempt to correct the lack of structural organizations and, in a second stage to correct or alleviate additional market failures and externalities; such as monopoly, lack of information and absence of local markets (Bonjean, Chambas, & Combes, 2001; Calkins & Ngo, 2010; Stiglitz, 1989).

Substantially, researches on cooperatives and smallholders are constantly focused on the market and economic benefits of the farming groups, with less attention given to additional social aspects such as health, education and community well-being (IFAD, 2016). In general terms, economic improvements can naturally be translated into better livelihoods, when financial outputs are well distributed and organized around the community (Stringfellow, Coulter, Hussain, Lucey, & McKone, 1997).

Although, this point of intervention has space to be better explored also from the traders' perspective - since terms such as education and health provision are intrinsic elements of a living income -, they constitute basic governmental services and not a private responsibility per se. This makes sense when we corroborate to the fact that the provision of this kind of services was barely mentioned by the interviewees, specially the traders themselves. Again, the focus when cooperatives came to the table was mainly related to the economic realm and the means by which they provide different perspective of financial empowerment to the local communities.

As an exception, the provision of educational facilities, for example, were facilitated and mentioned by only two private actors: Tony's Chocolonely and CocoaSource. Both are part of the same supply chain, since CocoaSource trades cocoa beans from Africa to Europe to attend Tony's contracts. This is clearly a linkage with the Tony's Chocolonely mission of selling slavery-free and child labor-free chocolate bars (Tony's Chocolonely, 2019). The provision of schools is mentioned as a way to fight against child labor around the cocoa areas. Even though, they clearly state their help in that sense, they still reaffirm the role and the support needed from the governments for this kind of intervention to thrive. Another important point is that they only act via cooperatives, because this results in better control mechanisms on the ground, and the establishment of long-term supply contracts in response for the benefits they are applying locally.

> "*First step is indeed to identify this problem, first trying to tackle them at best as we can, of course but also with a bit of lobby with the governments to make them aware of what is happening in their forest in the bush, with the children*

of this farmers and so on. […] Without the government we can do anything in these countries […] And on some cooperatives we are working in Ivory Coast by building schools. It was a few years ago I think, there were around 360 children really in the bush that they were in need of a school. And for the first year the school was completely filled of children, of students. And we also took the regional government for that. And then we said, we are building the school, we pay for the building. But for the salaries of the teachers, of the director of the school and so on, we need you to be on board. We need you to recognize the school as a public school. And we made it happen and they are paying currently for 50% of the expenses of the school and the rest of the 50% is the cooperatives. And by having them on board, we know that this school will remain."

"It (provision of education) should be public responsibility; we need the government to be on board with this because we also don't want to be seen as overtaking government responsibility. This is not good. We were there to feel the need and to put in place the school where it was not present."

(Augustin Planty, CocoaSource – Jun., 2020)

"People don't have enough cash to pay the school fees or to make children go to school, also the quality is not that good. Tony's has a foundation, so 1% of the turnover goes to that. Last year Tony's total income was 70 million euros, which means that 700,000 euros goes to the foundation, and a lot of money goes into education, building schools, improving the quality of education, setting up school funds. Because if you address child labor and you say okay, kids should go to school and not work on the farm, but there are no schools and the quality is very bad. You need to do something about it."

(Henk Veldman Veldman, Tony's Chocolonely – Jun. 2020).

In an enabling environment, the flow of information, inputs and technologies can be the nest for development to unfold in cocoa regions. The gathering of farmers in a cooperative strengthens their position both in public and private arenas, by giving them a collective voice to claim for polices and interventions that would address their goals (Baah, 2008).

B.2) <u>Improved bargaining power</u>

The collective voice of cooperatives has also a role to play when it comes to enhancing the **bargaining capacity** of farmers and reducing the power imbalances among actors in the supply chain. In fact, some international aid organizations have encouraged the creation of cooperatives because of its ability to offset power abuses, market concentration and lack of market information in the primary production node; and therefore, protect farmers from these threads (Wilcox & Abbott, 2006). When governance mechanisms have space to shift, growers can better state their position and their rights against other chain members.

"So, the first thing that should happen is that the smallholders should get together to form a cooperative [...] that they agree to pull their cocoa. And in order to produce enough material, in order to attract more than just one guy with a van, that would be the start. Maybe you've got three or four people who would be interested in the fact that you've got maybe 25 tons of cocoa. Now, the power is shifting. It does not make a shift completely, but it's been raised to a different level [...] You've made a start, the more competition you can get, the more likely is that you're going to get a higher price.

[...]

By strengthening the cooperatives, the grower has as a better chance of getting a more realistic world price for his goods. It's never going to be perfect. But, that's the way how it is, but at least then you've got an opportunity."

(Robin Dand, Federation of Cocoa Commerce – May 2020).

"I think also that the farmers unions and farmers cooperatives should be much more involved in the whole management of the value chain with the Governments. It's clearly a problem of democratic governance. I'm always explaining that when you are in Africa, you go to a meeting of the cocoa Council of the government and you have the ministers chairing, the private sector is on the left. The other ministers are on the right. The farmers are the end of the room. When I was in Colombia, the meeting was chaired by the president of the farmers and not by the Minister, you see the difference?"

(Michel Arrion, ICCO – May 2020).

The enhanced bargaining power given by cooperatives are expressed in managing the input and outputs, and the opportunities to take advantage on both (Wilcox & Abbott, 2006). By moving greater amounts of cocoa, cooperatives establish a stronger position in the chain in a way that they have enough bulk material to bargain the cocoa price with traders; while the purchase of farming equipments or agrochemicals can be better negotiated because of their enhanced buying power in higher quantities. From merely price takers as individual smallholders, cooperatives can assume a position that allows them to negotiate, and therefore choose for the best option when it comes to guarantee a living income for the members.

From the traders' perspective, cooperatives can give them a safe environment when it comes to having a stable supply of cocoa in a long term, which guarantees some sort of stability from the farmers' side as well. These contracts are the gateway for shared responsibility to flow from traders to the cooperatives, establishing a two-way road relationship.

c) Access to finance

Accordingly to the World Bank database of 2017, around 1.7 billion adults do not have access to a bank account either via a financial institution or a digital provider; and there is an important overlapping between the poorest and the unbanked people (World Bank Group, 2018). Around cocoa smallholders in West Africa, approximately 54% in Nigeria, 37% in Cameroon and only a very small portion in Ghana and Ivory Coast have access to credit. In general, a great amount of the banked ones are cooperative members (Nyemeck, Gockowski, & Nkamleu, 2007). In the same line, the Ghanaian Cocoa Board states that among different reasons for the low productivity locally, the lack of supporting services such as access to credit and lack of information contribute substantially to the problem (Onumah, Williams, Quaye, Akuffobea, & Onumah, 2014).

By saying that, the access to finance is an important step to promote the professionalization of cocoa smallholders and improve their "technology adoption, agricultural productivity and the overall household welfare" (Nyemeck et al., 2007). Traders in fact recognize the importance of promoting a better financial access, especially because of the strong linkage between that and increased yields. As a result of their size and high economic power, access to finance can easily be provided by the main traders, and there are already some efforts going on in that direction.

> *"Financial Services are very important because they improve productivity. A farmer needs to apply certain farm inputs, which includes a proper use of fertilizer, because without fertilizer, the soils in tropical countries, especially in Sub Saharan Africa, are very limited in terms of nutrients, so you need to restock those nutrients through application of fertilizer. So that's one of the key points in terms of productivity, but for that the farmer needs finance and access to financial services that we also have quite integrated into our program […] So, various mechanisms work very closely with farmer organizations."*
>
> **(Patric Brandt, Cargill – Jun. 2020)**

One important issue as a result of the lack of banking structures is that farmers are, in many countries, paid in cash. With two harvests per year, smallholders receive a great amount of cash twice a year and face the difficulties of spreading this money during the lean seasons. In addition, the possession of cash brings problems such as violence and robbery around the cocoa communities. The opposite of that, therefore, would be the payment using banking services.

Banking accounts in this context could also strategically work to help farmers to better distribute their earning throughout the year, via saving incentives. Traders could even put in place a monthly payment distribution method in an attempt to make income more evenly distributed.

> *"Providing banking services so that people can transfer money electronically makes a big difference. I think it is always poor people who don't have financial services. And they suffer. They suffer from that sometimes quite tragically, because they get robbed and even killed. It is not about using very expensive financial services for transferring money where they take a huge margin out of the money. So, bringing bank accounts to people has been proven as a way of growing the opportunities for improving themselves economically."*
>
> **(Alex Ferguson, World Cocoa Foundation – Jun. 2020)**
>
> *"So, you have campaigning organizations who are saying, 'cocoa farmers in Ghana and Cote d'Ivoire, earning less than $2 a day, this is not acceptable'. Of course, they are right, and I support what they're saying. However, the more nuanced appreciation that we need to gain is that actually this figure of $2 a*

day doesn't tell us a huge amount of things, for example, it completely hides the role of seasonality. Now you don't harvest cocoa every day, you don't get an income all the time from cocoa. [...] And actually, rather than just trying to look for that ubiquitous $2 a day figure, we need to understand a little bit more of the cycles that farmers get into [...] So to be honest, there could be times when their daily income is $4 or $5 a day on average. But it hides the fact that six months a year they've had no income."

(UK Specialist, UK Research Institute – Jun. 2020)

One important barrier to be considered is that the high levels of illiteracy limit the participation of the rural poor population into financial services, as the written language is the main mean by which procedures and contracts are arranged among the parts (FAO, 2002). To solve that synergically, the creation of cooperatives also produces an environment for better economic and financial developments to flourish, especially in terms of providing employment opportunities, opening of channels to credit access and banking services; and protection and resilience of the members (Innocent & Adefila, 2014), while also facilitates the translation and understanding of these services to the community.

Cooperatives also have a role to play in helping farmers to manage the flow of goods and money. In Côte D'Ivoire, for example, cooperatives had promoted a better management of the sales by establishing improved storage unities, and thus slightly diluting the market more evenly over the year (Calkins & Ngo, 2010). Having a good storage management allows the selling of cocoa during the low seasons where prices are commonly higher (Boratav, 2001). This all together promote a resilience mechanism and financial stability for smallholders to a certain degree.

6.2.2 Product upgrading

"*Moving into more sophisticated product lines (which can be defined in terms of increased unit values)* (Humphrey & Schmitz, 2002).

The idea of value addition of agricultural commodities is centered on the notion of literally adding up economical value to a given raw material/product, which results in a determined degree of differentiation, transformation or processing (Trade, 2018). Bringing this discussion to the focus of cocoa, that would be all the different steps to transform/process the beans to a final product. Cocoa is mostly used for food purposes, but it also has some non-traditional uses such as cosmetics, pharmaceuticals, mulch and animal feed (CBI, 2020; International Cocoa Organization, 2003). Here, the value addition will be discussed in terms of *specialization, and local processing and manufacturing.*

"The farming community, whatever you are farming, you are a price taker you are not a price maker. And you cannot really dictate where the prices are. What is in your power is to make sure that you get the best price for your area. So that's one thing and the other is that you can give added value. So in other words, if you are for example, let's take off to one side for a moment, if you are

a milk producer. One of the things that you can do is not only sell the milk, but actually you might choose to make cheese and sell that. So that is providing added value for what you're actually doing".

(Robin Dand, Federation of Cocoa Commerce – May, 2020).

Currently, cocoa already suffers some processing degree at the field level through fermentation and drying of the beans, which is a very common practice especially in Africa. This is per se a relevant value addition, since the prices for fresh beans are substantially lower when compared to dried and fermented ones (Soemarno, Hariyanti, Soeparto, & Sophia Hartatri, 2015). Fermentation and drying processes are tightly linked to the quality of the beans, and therefore, when well performed they can result in a differential and valued product (Afoakwa, 2014). In opposition to diversification, the idea of *specialization* includes terms of certification[1], origin, quality and genetics (CBI, 2020); where farmers incorporate these factors to attend niche markets and get better earnings due to the differential quality. Specialization can come to the ground also to address the low yields, insufficient living income and lack of innovation for cocoa smallholders (James Gockowski, Afari-Sefa, Sarpong, Osei-Asare, & Dziwornu, 2011).

Flavor specialization has already proven to be a good way to go in markets such as coffee and cocoa (Bacon, 2005; Soemarno et al., 2015), however, there is a limited space for this kind of intervention to work out both from the consumers side and from the production one that are key to understand.

From the consumers' side, higher cocoa quality automatically means higher prices and reaching niche markets for demanding consumers. This trend for better quality does exist but it is limited when compared to the big bulking picture. As the name says by itself niche markets represents a small part of the market share, whereas the big market is still being the bulk cocoa (CBI, 2019; James Gockowski et al., 2011). In Europe, for example, the breakdown of the chocolate end-market based on quality shows that high-quality specialty chocolate products occupy 5-7% of the whole market, moderate quality reaches around 10%, while the demand for cheap chocolate products reaches 80-85% (CBI, 2020). Therefore, there is a certain extension by which smallholders could take advantage of this trend considering the supply-demand law.

"But I think it's also important to say that Tony's is not a single origin high end type of chocolate. So, if you go to chocolate delicacy store in the Netherlands or anywhere in the world where you can buy 100% percent single origin quality chocolate that has a different market than us, which it's a mainstream market. When you see Dutch cocoa, of course also a lot of other stuff is added, there's sugar in it, we put cardamom seed in it, hazelnuts, everything in it. Not to say that the quality of cocoa beans is poor, it fulfills certain quality before it can be exported. But it's not a core factor [...] There's a specific market to it. But that's not something we are tapping in with Tony's. There are farmers in Ghana that focus on high quality beans and sell it to companies that want high quality beans and marketed like that."

(Henk Veldman, Tony's Chocolonely – Jun., 2020).

Certification schemes and their role is discussed on Chapter 8.

Furthermore, quality requirements that were generated from consumers need to travel back downstream to upstream in the chain, which means that a clear communication of what is being asked is essential to answer to a particular demand. This information essentially needs to be brought to the smallholders via traders or chocolate manufacturers and are well coordinated via cooperatives. Because of that, cocoa specialty chains tend to be short and more transparent, in opposition to the bulking cocoa that has a long and complex framework. Per se, this shortening of the chain has great possibilities of delivering a better and more equitable income to smallholders (CBI, 2020).

> *"Unless you are growing a very particular cocoa much sought after, you're not going to get information feedback to you. I've only seen one exporter of cocoa receiving information from a chocolate company about the quality of their cocoa. And what would happen is that they would have a consignment, the exporter would do a quality tests in line with what the chocolate manufacturer does or did and, they would send off a report and then the chocolate manufacturer, when the goods arrive, they would do the same quality test, and they would send back their information. So, immediately you've got the feedback also for the farmers."*
>
> **(Robin Dand, Federation of Cocoa Commerce – May, 2020).**

It is important to realize also that value addition processes require an initial investment to be put in place, either of human or financial capital. Considering the low possibility of on farm investments for cocoa smallholders, as a result of the poverty trap they are in, such investments needs to come from other stakeholders. In that sense, traders can play again an important role by advising farmers on better cultivation, fermentation and drying techniques.

Cocoa specialization in general has been developed substantially in Latin America, with the region being responsible for around 80% of the fine flavor beans production in the world (CBI, 2020). In Africa, the deep poverty conditions of farmers represent a barrier for them to join a specialty cocoa chain. On top of that, when it comes do Côte D'Ivoire – the largest cocoa producer in the world – the government mechanisms on price control do not allow price differentiation based on quality of the beans. However, the payment of certification premiums on top of the established price is still possible (Bymolt et al., 2018). So, although an important mechanism to raise the living income of farmers, regulations in place, the need for outside investments and the small supply-demand set limitations for this market to further develop.

> *"In Latin America the cooperatives are much more powerful, much better organized. [...] And sometimes those cooperatives, they are dealing with something that is absolutely key for the quality of cocoa that is fermentation. The system in Africa, each farmer, each manager of a plantation is harvesting the pods, extracting the cocoa beans and, he will or she will organize the fermentation and the drying at the field, at the plantation whereas in Latin America the farmers will bring the wet beans to the fermentation center. Where you will have people from the cooperative mixing all the beans and fermenting and drying all the beans in the same way. So, you have consistency in the quality."*
>
> **(Michel Arrion, ICCO – May 2020).**

From the side of the traders, with special attention to the big ones – Olam, Cargill and Barry Callebaut – given their thin margins, they are profitable by transporting huge amounts of cocoa efficiently which are mainly focused on the bulking market. Plus, these specialty niche markets are often also narrowed to niche trading companies as well, or are even done directly by the chocolate makers (CBI, 2020). Therefore, even from the big traders' perspective, this mechanism is not completely feasible, which partially explain why it was not mentioned consistently by them.

6.2.3 Inter-sectoral Upgrading

"Firms of clusters move into new productive activities […], horizontal moves into new sectors" (Humphrey & Schmitz, 2002).

As growing cocoa is a genuine agricultural activity, an inter-sectoral upgrading for smallholders are unfolded in the shape of non-farming rural income generating activities. The role played by these activities simultaneously with agriculture is an important aspect contributing to economic development, financial resilience and poverty alleviation in developing countries (Davis et al., 2010). Overall, they are both synergic and relevant strategies to reach a living income from the smallholders' perspective.

A special attention given to these additional income possibilities is relevant particularly in the Sub-Saharan Africa, because the region has been following an opposite path when it comes to the economic development and structural improvement trajectory experienced in other areas of the globe (Loison, 2015). In the first place, rather than getting stronger and well established as occurred in North America and Europe, farms plots in Africa are often declining in size, as so as it is their solely capability of delivering a decent livelihood to the landholders (Jayne, Mather, & Mghenyi, 2006). Secondly, Africa is experiencing an exponential population growth, also in rural areas in contrary as what is being seen in rural regions of Latin America and Southeast Asia (Loison, 2015). Less land and high population density have a direct influence on the availability of resources locally, impacting the living income condition of those who depends on farming for its own and family subsistence.

The key factor is to identify how these activities can be better explored on behalf of the poor households. It is well understood that the high dependence on cocoa will keep the smallholders in poverty, and to alleviate it the promotion of additional activities is crucial to develop the rural economy (Carletto et al., 2007). On top of that, investing in additional income generating activities has shown to not be a thread for traders, in the sense that engaging into news activities would not take the farmers out of cocoa, but in contrary would guarantee their permanence in more sustainable terms. In addition, this might slightly control the mass exodus to urban areas in the pursuit for better income opportunities. This parallel is well explained in the study conducted by Knudsen (2007), where he found out that although non-farming activities have been assuming an important role in contributing to the household income, cocoa was still being the main income source for smallholders in Ghana. So, once they can reach a living income by combining simultaneous activities, they tend to run them altogether.

By overlapping the concept of living income and non-farming rural income generating activities, we assume a more holistic view of the household situation than an individual approach of only the growers/landholders themselves. What I want to say by that is that the living income is a benchmark of the combination of all income generating activities carried out by all the family members, being them farming or non-farming activities; which means that it is extremely relevant to look to the role of women in performing non-farming rural income activities.

There is indeed a broad spectrum of non-farming rural income generating activities that can be pursued and employed by farmers, in a context-related basis. Considering the role of traders and the range of activities they perform and can assist farmers when related to cocoa, inter-sectoral upgrading are here discussed on terms of promoting *local grinding of fermented and dried cocoa beans.*

To promote a better pathway to understand how the discussion is grounded here, firstly cooperatives constitute a primarily condition for income generating activities to flourish, when considering the aid that traders can offer in that sense. It was overly mentioned at the interviews that traders mainly put development interventions in practice through and at cooperatives.

Secondly, the discussion on income diversification and women empowerment has received a relevant overlapping during the data collection, in a way that additional activities are often carried out and tailored designed to employ women. To reflect the findings obtained at the interviews and because women empowerment is a more integrated strategy, this point will be discussed in the chapter 7. In addition to the fact that these activities are not necessarily directly linked to cocoa, women empowerment also entails terms beyond the living income, and therefore, they deserve a more integrated approach.

Thirdly, the realm of income diversification includes the idea of crop diversification and additional income generating activities, while both carry the idea of reducing the dependence of smallholders in cocoa. However, giving its nature, crop diversification will be discussed on the session for "functional upgrading".

A) Local grinding of fermented and dried cocoa beans

It is already known that from cocoa to chocolate or cocoa-based products, there are a lot of processing steps in between, and each of them add a certain value to the product itself. Cocoa beans processing can be seen as a possibility for vertical diversification for smallholders (Iritié & Djaléga, 2016). Therefore, any additional step that could eventually be carried out by the smallholders would allow them to reach a better profit and be one step ahead in the living income ladder.

Thinking about the steps performed after the fermentation and drying of the beans, smallholders could also be partially involved in the processing of cocoa. Considering the poor structural environment that the growers are inserted, it is not expected that they have any facilities or specific knowledge themselves to transform/grinder the cocoa even in an artisanal manner, but they could be part of a bigger scheme. In this case, the establishment of local processing units would work more as a non-farming income diversification mechanism encouraged by traders other than a purely value addition process for the smallholders. This is the case especially if we assume that the beans being processed do not belong to the farmers anymore, but they were subject to selling transactions beforehand. Although an important mechanism, there are relevant aspects of it that needs to be looked in details.

Currently, most of the cocoa beans are transported out of the origin and are grinded and transformed in the final destination, close to the consumer's market mainly in Europe and North America (International Cocoa Organization, 2017). By the graphs below, we can see the discrepancy between producing and consumer countries and the kind of product they export. Also a comparison on the average prices of each product is exposed. A parallel can be made between Côte D'Ivoire – the largest cocoa beans producer and exporter globally – and the Netherlands – the biggest cocoa beans importer and the global largest cocoa butter exporter -, and the different exporting prices for each of the commodities (FAO Statistics, 2020; International Cocoa Organization, 2017).

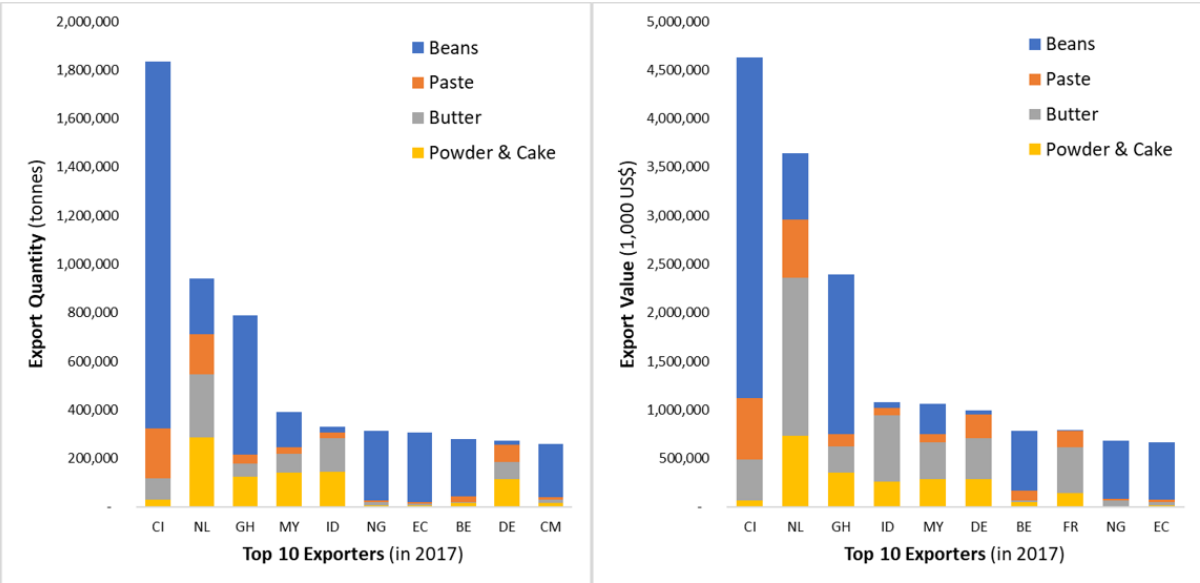

Figure 7. Top 10 exporters of cocoa beans, paste, butter and powder & cake in terms of quantity and value. Note Côte D'Ivoire as the largest beans exporters and the Netherlands as the largest cocoa butter and paste exporter. Data extracted from (FAO Statistics, 2020)

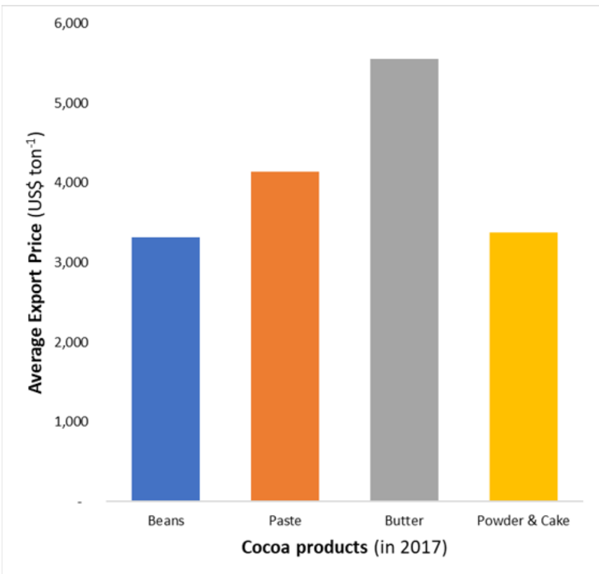

Figure 8. Average export price for cocoa beans, paste, butter and powder & cake. Note that butter and paste have a much more added value than cocoa beans. Data extracted from (FAO Statistics, 2020).

So, in general economic terms, the local processing has the imminent opportunity of bringing benefits to the producing countries as a whole, in terms of both product upgrading and inter-sectoral upgrading as well. However, transforming cocoa to chocolate or other products face some issues in the origin countries especially in Africa.

First, although large producers, Africa is far from being a large chocolate consumer. The consumption of cocoa derived products, especially chocolate, is a proportional function of the wealth in a given population. As a luxury product, there is a proportionality correlation of higher income countries and high chocolate consumption, which partially explains why Europe and the United States are the hotspot markets, and the lower income countries - also including the cocoa producing regions - present modest consumption rates. To illustrate that in numbers, the world average chocolate consumption in 2017 was 0.9 kg per capita/per year, while Switzerland – where the largest chocolate consumers are – registered around 10.5 kg of chocolate per inhabitant per year in the same period (CBI, 2018). As a counterpoint, in the same year, the annual consumption in India was between 100-200g per capita (Food Navigator, 2019); 100 g in China; 900 g in South Africa and 1.2 kg in Brazil (Conway, 2019). In the case of Ivory Coast, some of the smallholders do not even know what is made from cocoa and most of them have never tried chocolate (Barclay, 2014).

So, keeping the cocoa grinding nearby the consuming markets has been the main strategy adopted by traders so far. Plus, transforming cocoa to chocolate requires the addition of other basic ingredients such as sugar, milk and soy lecithin, which are not always abundant in the cocoa origins. In the case of milk, for example, it is barely produced in West Africa making them highly dependent on dairy imports (Balagtas, Coulibaly, & Diarra, 2006; National Dairy Development Board, 2015).

Plus, producing countries which are located in tropical areas – especially in Asia Pacific region and West Africa – are exposed to very high temperatures with not much structure for refrigeration, which results in chocolate melting at room temperatures. Therefore, the eventual rising on the chocolate consumption in these areas needs to be accompanied with more infrastructures as well, or even a "recipe tropicalization" to adapt to the local conditions, and also lowering the final price (by replacing cocoa butter by cheaper vegetable fats).

> *"Cocoa is a product that is barely consumed in those countries. Being part of a global value chain for cocoa is realistically the only value chain there. […] There isn't really an alternative because there's no major domestic market. I mean the other thing you got to remember with cocoa is that once it's manufactured into chocolate, it melts. Right? So, and to keep it you have to have refrigeration. So, it's not a product that's very suited to countries where electricity supply is uncertain, refrigeration isn't widespread. So this is another problem for manufacturing, making chocolate in the origin country."*
>
> **(Alex Ferguson, World Cocoa Foundation – Jun. 2020)**

The point of lack of infrastructure is also relevant here when it comes to establishing local manufacturing plants. As overly mentioned, cocoa producing countries face deep constraints when it comes to public services, such as roads, electricity, education and etc., and this lack of infrastructure can elevate the prices for local grinding quite substantially, making this not very viable for traders.

"So, if there was a lot of chocolate consumption in the origin countries that local grinding would make sense. Then the question is, economically does it work out? And you also then have to look and see which companies are working profitably at origin [...] But you know the calculations need to be very finally done. And a lot of the assumptions that are made are erroneous. So, just to give you an idea, have a look at the cost of electricity in Ghana and Cote d'Ivoire. And then try and find out the cost of how much electricity you need in order to process a ton of cocoa. And compare that with the cost of electricity in the Netherlands. And you will see, it's quite a big issue".

(Robin Dand, Federation of Cocoa Commerce – May, 2020).

"This again comes back to sort of public sector. If you think about the difference between Ghana and Cote d'Ivoire, but just thinking about West Africa, Ghana actually has invested quite a bit in their road infrastructure compared to Cote d'Ivoire. [...] So that's an example of the enabling conditions for competitive local markets [...] So it's the enabling condition and in the investment, whether or not the traders are in the position to do that, I don't know, I think that's the question."

(Stephanie Daniels, Sustainable Food Lab – Jun. 2020).

The Ivorian government, together with some additional measures to protect the income of cocoa growers, has set a tax mechanism incentive in order to attract and benefit more local grinding (Laven et al., 2016). In 2017, it was set an agreement between Cargill, Olam and Barry Callebaut – among others – and the Ivorian government to raise their grinding capability by 7.5% each, in exchange of further public incentives which includes benefits concerning the power costs. Accordingly to the local industry, beyond the energy costs, the costs of importing equipments and finding local specialized employees are among the factors that avoid local processing to be further developed (Aboa, 2018b).

"One thing I hear here, for example, 'well, why don't you put more chocolate manufacturing into the countries?' That will not solve the problem of poverty. If you move all the factories to West Africa that still will not solve your problem. This would obviously create some jobs there but would not by itself end poverty. As producer governments, companies, civil society and others know, a broader effort is needed to give farmers a bigger share of the value of cocoa production."

(Alex Ferguson, World Cocoa Foundation – Jun. 2020)

"Most of the processing factories that I've seen at origin would have usually Europeans who's the technical director or whatever, and he's in charge of twiddling the knobs and getting everything right. So there isn't that much opportunity to transfer information. They have a lot of these machineries, which is so technically advanced as a modern car, you know, you open up the trunk and then you have no idea of how the thing works [...] You have to get your guys from Switzerland to come in and put it right. It's not something you

can do locally. So I do wonder the sense of a lot of the manufacturers at origin for the processed goods. But that doesn't mean to say that it is impossible."

(Robin Dand, Federation of Cocoa Commerce – May, 2020)

Last but not least, combined with the fact that local grinding would employ a minimal amount of people, processing facilities would most likely serve the urban population rather the rural one, while the issue of cocoa smallholders living income is centered at agricultural areas. Tackling cocoa income means tackling rural poverty, and therefore, specific measures with that purpose should be put ahead. Opening manufactures would enable other people to have access on that, but not necessarily the farmers specially those ones located far away from urban centers.

Local grinding, therefore, is far from being a key solution for the issue of the living income. Although they can indeed bring benefits to a share of the population, it is still an intervention of limited reach. It indeed has the capacity of enhancing the value added of the goods exported, however it will not solve the problem or nearly present a substantial solution.

6.2.4 Functional Upgrading

"Acquiring new functions (or abandoning existing functions) to increase the overall skill content of activities" (Humphrey & Schmitz, 2002).

Functional upgrading in the cocoa framework will be here discussed on terms of *crop diversification*. As so for inter-sectoral upgrading, the main idea of functional upgrading is to reduce the dependence of smallholders in cocoa and therefore, decrease their exposure to the typical vulnerabilities of the sector. The difference here is that the activities will still be centered in farming but varying the spectrum of products farmed.

The highly dependence on cocoa both from an individual level and from a national level as well can work as a reinforcing mechanism to keep the engine of the poverty trap going on. This establishes a chronic occurrence of poverty (Azadiaris & Stachurski, 2005). For Ivory Coast, for example, more than half of its population depend their livelihood on the primary production, and growing cocoa gives income to nearly 20% of the Ivorian population (World Bank, 2019).

As a consequence, crop diversification has become a "mantra" among development organizations over the last years, whereas its benefits and how to apply such interventions remain underexplored (Bymolt, R., Laven, A., Tyszler, 2018). Crop diversification by itself needs to come accompanied with a broader view of the macro and micro dynamics in a given locality, specially related to the choice of crops, the proportion of diversification – how much should remain for cocoa and how much should be designed to other crops -, nutritional conditions, access to market and local infrastructure. For all these factors to be considered simultaneously, it is important that different public, private and civilians actors are involved in answering such questions.

"I've been doing work for 20 years, and for 20 years, people have been talking about crop diversification and saying that's the answer. If that's the answer, why is it taking so long to implement it and what crops so we get to diversify

into and is there a market for those crops? And is there a role for those crops to play in food security? There's a lot of questions around that needs to be answered. I'm not saying crop diversification isn't a good idea. But again, it's only one of many, many things that needs to happen in order for farmers to have a sustainable income and a life."

(UK Specialist, UK Research Institute – Jun. 2020)

Overall, crop diversification for cocoa smallholders can be explored as a strategy to promote more resilience and/or as a tool to increase their food security. Resilience mainly comes as a rebound for cocoa lean seasons; as spreading the income sources; and promoting environmental elasticity (by enhancing the crop diversity and therefore, reducing the vulnerability for climate change and pests outbreaks). On the other hand, food security arrives by the cultivation of edible crops, which can feed and serve as a subsistence mechanism for the household livelihood (Schroth & Ruf, 2013).

In general, all the traders interviewed already have crop diversification programs going on and they take this task very seriously in their development interventions. Yet, cocoa smallholders are still under deep poverty status because such actions are not fully inserted in a pool of reasonable conditions where multiple factors are considered at once.

"*We offer some crops to the cooperatives we are working with. We have been developing tomatoes, rice and some others. We did diversification especially of edible crops so they can choose whether they want to eat it or whether they want to sell it at the market to have another income other than cocoa."*

(Augustin Planty, CocoaSource – Jun. 2020)

"D*iversification is another key lever in terms of income. So, when we speak about diversification, cocoa is a main income source, but there are other forms; and that can be on farm so you can grow other crops which you can consume, but you can also sell those crops to food markets. We work a lot with agroforestry systems. Cocoa is very well suited to develop and optimize agroforestry production so you can intercrop with other trees on the cocoa plots. And from those trees you can harvest fruits, nuts and those fruits, again, you could consume yourself which is good for food security, but also you can sell through for example, farmer organizations that play very important role here to connect farmers also to other markets for those other products. You can sell to regional markets, even to urban centers to obtain better prices for example."*

(Patric Brandt, Cargill – Jun. 2020)

Regarding the choice of crops in the diversification strategy, it is pretty much dependent on the smallholders' access to resources, which per se is also very aligned to the supporting organizations and companies working in the background (Fourcade, 2018), especially when the diversification walks towards cash crops. However, as said, the crop selection should receive attention of multiple actors, with a special attention to the public sphere. Thinking of crop diversification as a strategy to reduce the income gap, it is not only about the production itself but also about the flow of this production; and how these goods can be inserted into the local economy.

Apart from producing cocoa, many of the additional agricultural goods cultivated are destined to the local community subsistence, which often remains in marginal local markets and trade (Loison, 2015). Cocoa in contrary, although diverse and complex, already has an established network where it flows from the fields to larger facilities and markets. Therefore, making use of the existent structure of cocoa could help other sectors to be developed as well, promoting a more landscape approach. For that means, again, cooperatives are extremely important because they can be the center where different crops can be exchanged by the members in local niche markets, or even work as a center for distribution to other places and larger markets, as so as it is done with cocoa.

From the trader's point of view, they are already well aligned with cooperatives and they are mainly the ones governing the cocoa beans web, particularly the transactions held from the farms to the harbor. Therefore, they could work by connecting these flows to other crops as well.

In the case of governments, they need to be involved in understanding the dynamics of the region's macroeconomics, to define which crops would be well absorbed for the niche markets or even overseas, in order to avoid surpluses or the cultivation of products that does not fit the local environment. For a good crop diversification strategy to work, public policies should be as strong as those ones previously made to support the cocoa growth in countries as Cote D'Ivoire and Ghana. Plus, considering the living income, the price component is equally important to be adjusted not only for cocoa but also for the other commodities that are composing the smallholder basket.

> *"If you look at any of the professionalized diversification programs that showed results [...] So they are supporting a national policy, supporting a financing scheme, supporting an exporters' network. [...] And so, it isn't just giving people seeds or something like that, so they can sell a bucket of tomato in the local market. This is not professionalized diversification. I think it needs structured policy, like the way they have supported the cocoa sector, structured policies that are at the national level and that provide incentives, support, and training, organize a supply chain, the whole."*
>
> **(Stephanie Daniels, Sustainable Food Lab – Jun. 2020)**
>
> *"The first thing, as I said, is to increase the prices of the cocoa, but the cocoa farmers are producing other products than cocoa. So, we have to improve also the prices paid to coffee, to palm oil, to cashew, to rubber, to rice, to maize, to grains, to everything. So, the situation I describe in the cocoa sector is also very valid in many other commodities or value chains. The prices are low. What I have said about cocoa, my colleague from the International Coffee Organization can probably say 90% the same as I am, the price paid to coffee growers is just too low. The coffee growers are just extremely poor. So, the answer to improve the living income, we have to improve the prices paid for all commodities and we have to promote diversification."*
>
> **(Michel Arrion, ICCO – May, 2020)**
>
> *"It is a partial solution, I would say. It's not the solution because if we just say that everyone should be diversified, like 50/50 or whatever. And you will see trees cut to plant tomatoes and then in the same markets, you have plenty of*

tomatoes, automatically the price of the tomatoes will drop. Once again, it's just a matter of balance."

(Augustin Planty, CocoaSource – Jun. 2020)

Also looking at the macroeconomics, crop diversification in cocoa regions is a smart strategy to avoid cocoa surpluses as well. Cocoa oversupply can automatically lead to price drops at the farm gate level, deepening the income gap experienced by farmers. Because of that, interventions related to yields must be well orchestrated, and crop diversification can touch upon this point by enabling the farmers to increase their earning without necessarily increasing the cocoa production.

"We are concerned about helping cocoa farmers improve technically and economically. This entails increasing cocoa productivity but also diversification, which is a way for farmers to improve income, without putting excessive pressure on cocoa supply. Indeed, we are not promoting planting of cocoa extensively. This is to say that diversifying is going to be a way to avoid oversupply in a way. Indeed, we are not promoting planting of cocoa extensively, as it is not necessarily in the interest of the farmer or the environment."

(Pierre Broun, Olam – Jun. 2020)

"We also need to diversify to value chains where there are consumers and markets. Don't diversify in cashew nuts where there is only one country buying cashew that is India. So, if you depend too much on Indian traders, you have a problem. If everybody is diversifying in the same product, then you are creating surpluses in cashew, and the prices of cashew go down. We have seen that everywhere."

(Michel Arrion, ICCO – May, 2020)

When encouraged by traders, crop diversification can also be part of a landscape business approach to diversify their own portfolio while using the same channels that already exist in the cocoa chain. Specifically, for companies such as Cargill and Olam that are active in a broad spectrum of value chains, encouraging diversification towards commodities that they also have interest to trade can facilitate the goods to flow both for smallholders and for the companies as well. In that case, crop diversification would be centered into cash crops more than edible crops, and therefore, resulting in improved income resilience more than in food security. As a counterpoint, the literature also points to side effects on dietary quality of smallholders when they decide to diversify more to cash crops than to food crops (Ickowitz, Powell, Rowland, Jones, & Sunderlanda, 2019).

On the other hand, traders tend to operate very segmented and these additional crops in general do not reach quantities that are interesting from a business point of view. Also, although companies do help the diversification, their primarily interest is still on cocoa. They would not encourage any kind of crop that could directly compete with cocoa and eventually affect their supply. Once you have a specific sector that shows itself as a very lucrative option, farmers can go to that pretty much if there is no regulation in place. This phenomenon in the past has, for example, negatively resulted in high deforestation rates to plant cocoa when the prices were high (Franzen & Borgerhoff Mulder, 2007). In addition, this concern is also correlated with the fact that having a stable cocoa supply was described as one of the main motivations for traders to engage in more shared responsibility interventions. Again, it shows why the local governments needs to actively coordinate crop diversification interventions in order to make sure that it works better as a livelihood strategy other than a purely business machinery.

Nevertheless, there is no one solution fits all when it comes to interventions for crop diversification as a strategy to close the income gap. It is very context dependent if smallholders should go more to cash crops or to edible crops, and to which specific crop they should go to.

> *"Olam is also a good example, they buy cashew, they buy coffee, they buy many other products. But it's not the role of the private sector to advise producers and to promote the organization of the sector when it comes to diversification, this is typically something for a government to do."*
>
> **(Michel Arrion, ICCO – May 2020)**

Overall, crop diversification is being discussed in the cocoa sector already for many years. And the fact is that farmers are indeed diversified (Bymolt et al., 2018). What is actually lacking on the ground is a better incentive from the local governments towards specific crops that would really result in income improvement. Cocoa, especially in West Africa, is still being overly promoted by local policies. Crop diversification should be incentivized in a way to prevent more risks from cocoa from the smallholders' point of view, while be capable of reducing the income gap.

6.3. Conclusion to Chapter 8

The preceding chapter provides a roadmap of mechanisms where traders could engage in helping cocoa smallholders to reduce the income gap, also considering important barriers to do so. The interventions were translated into opportunities for upgrading, accordingly to the Global Value Chains framework.

The empirical conclusions show that the interventions promoted by traders are also very linked to their main motivation of having a stable supply of cocoa and maintaining the smallholders in the cocoa global value chain. On the other hand, for the smallholders, all the interventions that would make them less dependent on the cocoa income are the ones with more promising results in alleviating poverty.

In general, interventions can be divided in cocoa specialization (product upgrading and process upgrading) or cocoa diversification (functional upgrading and inter-sectoral upgrading). For them to succeed a context-analysis is required to design and tailor interventions; while the participation of public, private and civil spheres are a necessary condition.

7. Integrated strategies as a mechanism to reduce the income gap: the role of certification schemes and women empowerment

7.1 Introduction

Integrated strategies here are seen as interventions that goes beyond the upgrading boundaries, by exploring synergies among several actors and different development actions in delivering a living income. Their realization, maintenance and outputs concurrently reach an ample spectrum of benefits by touching upon environmental, social and economic practices towards a sustainable development.

In the case of certification schemes, they are born as a willingness for a more sustainable consumption at the consumers' node, and its impacts travel all the way upstream at the chain, inevitably reaching all the actors joining the chain in different degrees. Regarding women empowerment, the gender agenda are an intrinsic part of the Sustainable Development Goals, and women independence *per se* constitutes a basic human right (Kiewisch, 2015; Doss et al., 2015). Any gender interventions require the participation and integration of different groups in the society to be inclusive enough and produce solid results.

This chapter will also elaborate on my hypothesis of whether or not the integration seen in certified chains might constitute a favorable environment for inputs transfer between traders and farmers, and possibly reduce the income gap experienced by smallholders. This session also provides a deep discussion on to what extent certification schemes do constitute a viable mechanism to improve the living income of cocoa smallholders, taking into account the trader's perspective and their motivations to do so.

Overall, certification was a commonly mentioned topic at the interviews by all the actors. Additionally, it often receives the title as the way to go when it comes to build a more sustainable and fair global chain, especially from the general public/consumers. To better understand how certification operates on the ground this chapter provides a general overview on the main cocoa certification labels; how vertical and horizontal integration takes place in certified chains and to what extent labels help the livelihood of cocoa farmers inserted in certified global chains.

When it comes to women empowerment, the female role in the living income discussion was pretty much mentioned in terms of income generating activities by the interviewees. As genuine components of the household, a lot of interventions to promote income diversification were specifically designed to include women. In this chapter, the role of females will be explored within the living income story, and how their inclusion can promote integrated improvements in the livelihood of the community as a whole.

7.2. The cocoa certification mainstream: an overview

As an important tool for accessing key European markets and their demanding consumers, certification schemes and eco-labels also have the power to affect the governance and upgrading possibilities in global value chains (Tran, Bailey, Wilson, & Phillips, 2013). In the cocoa chain, the most recognized certification schemes targeting growers are focused on promoting sustainable practices in farming and tackling poor labor conditions. Under this context, these certification schemes have standards mainly related to deforestation, control over the use of agrochemicals, mitigation to climate change, poverty alleviation, slavery and child labor (Cargill, 2019; UTZ - Rainforest Alliance, 2019).

Looking at the global picture, the cocoa based products are basically certified only by Rainforest Alliance, Organic, UTZ, and Fairtrade (Nieburg, 2018). Data are divergent in the literature, but the estimative is that between 16-23% of the global cocoa trade is certified (Lernoud et al., 2017; Ministry of Foreign Affairs, 2020; Nieburg, 2018). UTZ is by far the biggest player, occupying 15% of the global cocoa area, followed by Rainforest Alliance, Fairtrade and Organic (Lernoud et al., 2017). Organic certification for cocoa will not be overly discussed here because the Organic label was not mentioned by any of the interviewees and plus, its coverage in the world market is really low in comparison to the remaining ones (Lernoud et al., 2017).

UTZ and Rainforest Alliance were both initiated as a result of the environmental and sustainability awareness wave seen in the last decades, with an important focus on tropical deforestation caused by the production of Southern crops (Rainforest Alliance, 2019; UTZ, 2020). Overall, they are claimed as environment inclined standards. From 2018, Rainforest Alliance and UTZ got merged, and together they will account for 79% of the certified cocoa sales worldwide (Nieburg, 2018).

The Fairtrade logo, on the other hand, has a more social approach. With a clear focus on smallholders, Fairtrade certification delivers additional premiums that aims to both cover the farming costs and provide a decent life to growers, in a way that they are capable of reinvesting this money back to the community (Fair Trade International, 2020).

Because of the reach of UTZ and Rainforest Alliance labels, the general term "certification" pretty much referred to them at the data collection. During the interviews, a clear distinction was made when the reference was Fairtrade. Overall, the three schemes are incorporated by the traders interviewed.

7.2.1. Vertical and horizontal integration in certified chains

Value chain integration can be discussed considering the vertical and horizontal axis. While vertical integration covers the inter-node perspective, travelling upstream to downstream in the supply chain; horizontal integration applies to the intra-node coordination.

By definition, the application of certification standards into a given supply chain automatically denotes a vertical integration of the different chain nodes to achieve a common goal, either with an environmental or social approach. Overall, certification schemes came to the global agenda to materialize the consumers' willingness for fairer supply chains, which needs to be considered and applied at the stages held before consumption.

To apply certification standards consistently, leader companies must have a tight control over the primary production, trade and distribution by applying governance mechanisms

(Trienekens, 2011). The leader companies, therefore, apply their coordination and influence in a vertical ladder over other actors in the chain that are subjected to these power forces.

In that integrated framework, companies often make use of two relevant terms: *traceability* and *transparency*. Both constitute a common rhetoric in cocoa certified value chains, as they are the guarantee that the terms of certification are being consistently applied.

Traceability comes pretty much as a demand from consumers that want to be sure of the origin of the goods they are purchasing. Additionally, leading companies are more prone to invest in chains that are fully traceable, in a way that they know exactly where their investments are being allocated. Theuvsen & Hollmann-Hespos, (2005) further state that certification requirements constitute one of the key elements for the fully adoption of traceable systems.

Traceability is therefore essential when we consider that certification schemes in cocoa are manly based against child labor, slavery and deforestation; or have an organic production background. Overall, traceability brings transparency, and transparency brings traceability. Plus, evidence shows that high degrees of trust and transparency in relations of trade have the potential to bring improvements to certified farmers, also in terms of a fair price (Phillips & Tallontire, 2007). Traceability and transparency together are then key components to build a sustainable cocoa sourcing, and they are only reached when vertical integration is in place. From that we can assume that indeed certifications bring a higher degree of vertical integration to a given cocoa supply chain, which are defined by the main certification schemes as traceability and transparency.

> *"I think what is important for us is to be transparent. [...] But I think also about the traceability. We developed a tool called bean tracker, which is a tool that we can see where the beans are in our supply chain. So, everybody in our supply chain has access to information, the farmer, cooperatives, to Barry Callebaut, to the trader and, to CocoaSource, everyone knows where the beans are at, which time. We also know who produced the beans for our chocolate. So, I think that is very important [...] Indeed, consumers are demanding transparency".*
>
> **(Henk Veldman, Tony's Chocolonely – Jun., 2020)**
>
> "*If they can verify that the beans were not made with child labor, the beans have not caused deforestation then that the farmers get a premium. And this is happening. But the issue is trying to get to 100% traceability. In other words have knowing exactly where your beans come from."*
>
> **(Alex Ferguson, World Cocoa Foundation – Jul. 2020)**
>
> *"We're now working on making, building a new system to be able to follow the cocoa better through the supply chain and that includes the sustainability differential that has been paid to the farmers, to the coops. So, it becomes more visible for the end buyer or the brands, what has been invested in the coops level and what has been done. So, it can be different kinds of investments or actual paid money. And because of the very complex supply chain, technically that might have not been feasible some years ago, but we're working on that now. And I think that helps if you make it more transparent. That's what we're working on. And that's also why certification helps, it makes it more transparent and able for you to control that supply chain, then you're not able*

to say, 'I did not know, it's not my responsibility'. Now, it's everybody's responsibility and you then can use your power to talk to the first buyer, or to invest or to pay the price that the first buyer needs to make this program to be economically viable."

(Erica Smit, Rainforest Alliance – May, 2020).

"Certification is a mechanism through which branded companies can communicate objectively on the impact of their interventions on the ground, thereby increasing transparency towards the consumer."

(Pierre Broun, Olam – Jun. 2020)

In summary, both traceability and transparency are relevant elements to compose a vertical integration in certified global value chains. However, their benefits from the smallholders' perspective are marginal, in terms of their livelihood and living income. They are indeed instruments put in place by the actors exerting governance mechanisms in the chain, and although they bring benefit for the sustainability of the supply chain as a whole – specially answering to the certification standards, such as child labor and deforestation – they do not constitute further improvements to reduce the income gap of smallholders.

One important issue to mention on the vertical integration as a result of certification schemes is that retailers are not included in the scheme. The chain of custody considered by the certification promotes the integration from the primary production to the brands, while supermarkets are not certified. As already discussed in chapter 5, retailers are not only absent on sustainable initiatives to promote a living income to farmers, but they are also absent when it comes to certification schemes. There is a clear limitation here regarding the full vertical integration of the cocoa global value chain.

Another challenge with certification traceability in the cocoa chain is regarding its very diverse production base, compounded by millions of smallholders. A full traceability system that would put on board all the growers would have huge transaction costs for the certifiers companies and for the traders. Again, it is relevant to remember that cooperatives arise as an answer to facilitate these traceable measures, and, therefore, reducing the transaction costs in the chain. In that sense, communication, market access and information that travels vertically are strengthened and stimulated by horizontal integration (Trienekens, 2011), where the two axis of integration can proportionally improve each other in a feedback looping.

As a common rule, if you are a certified smallholder, you are organized in a farmers group. This is due to the fact that individual smallholders do not possess the financial investment, technical capability and inputs to certify themselves individually. It was already mentioned that the price and efforts to be certified constitute one of the biggest barriers for certification schemes to overspread among farmers. Certification standards require an initial investment from farmers to upgrade their farming conditions towards more social or environmentally friendly practices.

On top of that, certification schemes also demand an extra degree of human capital, which is defined not only by more working time applied by the growers in their farmers, but there is also a demand for reading and reporting farming data (Lemeilleur et al., 2015). In relation to these initial investments, the available literature also exposes cases in which traders and companies help the farmers to build their capacity to be certified under the signature of supply contracts, which are commonly set with farmers groups (Blowfield, 2003; J. Lee et al., 2012; Maertens & Swinnen, 2009).

So, via horizontally integrated cooperatives, the inputs and techniques needed for the certification standards to be met are thus reachable, while individually these tasks are financially and technically very difficult. In general, certifications schemes are often applied only at the cooperatives level and not to individual cocoa smallholders, especially in Africa. So, cooperatives are certified and therefore the members placed under their umbrella have the possibility of being incorporated to the program. In general, farmers that are both certified and inserted into a cooperative joins benefits that help them to have a better access to the market, to market information, to inputs, and one step ahead in the living income ladder.

> *"In reality they've reorganized it (the certification inclusion) in so many different ways. And usually, it's the cooperative and so you're getting a few pennies less of your premium. So it is not usually that individual farmers are paying. It's usually their cooperative who decides or the trader decides and then they're part of the scheme."*
>
> **(Stephanie Daniels, Sustainable Food Lab – Jun., 2020).**
>
> *"By becoming certified, they (smallholders) get access to credit sometimes, to training, to a range of different services that again, they don't get if they're not certified. At social capital, we've also seen as really important information, so just by being certified they get access to a range of financial and non-financial benefits. [...] because by definition if you're certified, you're in a farming group."*
>
> **(Verina Ingram, Wageningen University & Research – May, 2020)**

7.2.2 Is certification a viable mechanism to improve the living income?

As a payback for complying with certification requirements, the farmers receive an additional premium on top of the farming gate price. The discussion here will then focus on to what extent these premiums really constitute an important step to effectively reduce the income gap experienced by cocoa farmers; and the traders' perspective on it.

Although the benefits of being certified on terms of vertical and horizontal integration were already recognized by the interviewees; the point on its effectiveness regarding the payment of premiums and the living income gap have received a lot of skepticism in the data collection.

Certification was in general treated by the interviewees as a "cosmetic solution", in a way that it is not capable of solving the income gap completely. Specially looking to the biggest certification schemes – Rainforest Alliance and UTZ – they are pretty much concerned in treating symptoms of the cocoa chain, such as deforestation and child labor disclaimers, and not really touching upon the root of the problem related to farmers' income, which is poverty. On other words, deforestation and child labor are results of poverty; and not the other way around.

Somehow, grinders do not see certification as the main tool to increase the sustainability of the chain, but in contrary they see them as part of a solutions pool. This explains why they all have additional sustainability programs that go beyond the certification to deliver a relevant outcome. For example, crop diversification programs run by traders have nothing to do with the certification chain; while it is a relevant measure to work on income improvement and resilience.

"They (certification schemes) are helping anyway to the living income, to the yields, to the promotion of good agricultural practices, to the safety of the farmers, to fight against child labor, to fight against deforestation. They are helping because the little is always better than nothing. But little is little. It's not big enough, you should look at numbers. Just for one example, about deforestation in Ghana, we have been promoting the yields to the farmer and increasing of the production as a solution for the living income. We've seen today that it's not working and what has been done on the other side is that they have cut the forest to plant cocoa, to have more cocoa to sell, so a bigger income and then now we are saying 'Oh too bad'. In Ivory Coast they have cut all their forests too. But once again what should you do: keep your forests and keep people poor? Or do you keep people rich and you get your forest cut or whatever? it's a matter of balance and or you are fine with it, or you redefine it to no keep the situation the same."

(Augustin Planty, CocoaSource – Jun. 2020)

"It is one part. It's not to say enough. But there are many factors and variables. When you take a smallholder farmer, not speaking about big farmers...Really, family farmers, depending on the country, maybe have three hectares, four hectares of land and usually a household size of six to eight people. It (certification premium) offers a part of that solution but then, I mentioned the sustainability programs which the brands and the traders have in place; we also have ours from Cargill. And we are working very closely with the brands on implementing a whole range on interventions and programs. If I just mention the ones that are relevant for the livelihoods and, livelihoods always entails income and profitability, and that strategy would add quite a great deal when we speak about how to increase the profitability of a farmer income.

But they (certification schemes) are not the end, the end goal or the end line, they are a basis. And what we do often on top of that, we run those projects and programs on coaching, offering financial products. Offering communications through technology, mobile technology, for example, or diversification projects that are not required for certification. But a couple of basic criteria are required and for that, the consumer pays a premium and part of that premium is paid to the farmer."

(Patric Brandt, Cargill – Jun. 2020)

"Certification schemes have been around for quite some time, however the farmers still face many issues. We are working together with certification organizations, to adapt our approaches together for greater impact. Certification is no longer just about measuring environmental indicators or safe and socially acceptable practices, which may not have a direct or long-term impact on farmer income. Certifiers are now also looking at how to improve

farming practices in ways that can have positive and lasting effect on their income.

[…] Certification in itself is important, but it's not a magic solution. What is important is to target wrong practices and inefficiencies effectively and use levers that can have cross-cutting impacts. For example, improving farm labor management can not only lead to higher productivity, but also reduce the risk of child labor. This may be achieved through better organization with other farmers, or through better planning, etc... Many of these factors are connected"

(Pierre Broun, Olam – Jun. 2020)

"There's a Dutch saying that they are in the corner where they're being hit. So I think especially in Holland you see a lot of crisis on certification, which I think is fair. So I think they maybe overpromised and underdelivered."

(Henk Veldman, Tony's Chocolonely – Jun. 2020)

"If you look at some of the bars of chocolate at the moment, I am amazed by how many certifications some of them are. Not just on cocoa but you see some that are vegan, gluten free, Fairtrade, organic, GMO free and all that. And just some of the certifications are so numerous and convoluted that I think it's a slightly saturated market.

[…] Do they solve the problems of cocoa farmers and will they ensure that cocoa farming is alive and well and sustainable into the next century? No, I don't think so. Are they a magic bullet? I just don't think they are. Do they make some marginal improvements? Yes, on some issues. I mean on things like gender empowerment, participatory democracy, education on child labor. Yes."

(UK Specialist, UK Research Centre – Jun. 2020)

When it comes to the main labels for cocoa, there seems to be not a big difference in the field between Rainforest Alliance and UTZ. Additionally, from 2019 they got merged in only one organization that combines both standards (RA, 2017), and, then, this difference became further blurred. However, in terms of income Fairtrade was mentioned as the scheme with more positive effects than the other ones in the farmers' ground.

While UTZ and Rainforest Alliance have an additional premium – which they call sustainability differential -, based on a negotiation between farmers and traders (Rainforest Alliance, 2018); Fairtrade has several indicators to build the "Cost of Sustainable Production" for the certified crops, which defines their "Fairtrade Minimum Prices". Then on top of that, it is added a "Fairtrade Premium" paid for the smallholders' cooperatives. The overall calculation is context-based, taking into account local particularities where the crop is grown (Fairtrade International, 2020a).

Considering the power imbalance between traders and farmers, and the low bargaining power that smallholders have when negotiating with companies, a premium that comes as a result of this relation might not fully benefit cocoa smallholders. This explains why the general certification schemes were titled as not enough to bring a reasonable impact on cocoa living income during the data collection. Empirical evidence has shown this in practice (Glasbergen, 2018). The study conducted by Schweisguth (2015) states that in Côte D'Ivoire, in some cases, the income of certified smallholders can be even equal or lower when compared to non-certified growers. The uncertainty of this additional premium definitely does not make these schemes a viable option in closing the income gap.

To further illustrate that, the UTZ certification statistics for 2018 stated that the average premium paid to smallholders per ton was of € 83.00 (UTZ & Rainforest Alliance, 2018). Translating that to dollars in the average exchange currency for 2018, where € 1 equals to US$ 1.18 (Exchangerates.org.uk, 2020), that results in US$ 97.94 of premium per ton. Considering a smallholder in Côte D'Ivoire producing 4 tons of cocoa per year, with a family composed by 6 members; this would result in a mere addition of US$ 0.17 a day per capita at the family income. This is not enough to close the income gap substantially if we go back to the assumption that most of the Ivorian smallholders are placed under the poverty line.

On the other side, for Fairtrade International the premium per ton paid was of USD 240 per ton of cocoa beans on top of a Fairtrade Minimum Price of USD 2400 per ton (Fairtrade International, 2020b). So, Fairtrade certification assumes a more reasonable approach by considering the bigger picture and establishing a fixed premium based on the context conditions, other than on negotiations between powerful and weaker actors in the supply chain. Here, it is worthy to remember that the living income benchmark itself takes into account the local realities for establishing a benchmark for a decent life. Fairtrade goes in the same line, and therefore, constitute a more viable mechanism to close the income gap when compared to the other labels.

> *"Yes, UTZ and Rainforest Alliance have a smaller premium. That's how they're set up. And again, that brings in the responsibility of the whole supply chain to be able to, for example, make farmers part of the Fairtrade certification scheme. You also need on the other end of the supply chain, the consumer, the people to buy that chocolate. If you have less people buying that chocolate compared to Rainforest Alliance or UTZ, where the premium is a bit lower, then you cannot onboard those farmers into that scheme because there's not enough demand for it.*
>
> *[...] Fairtrade scheme pays more than what is happening in other schemes."*
>
> **(Patric Brandt, Cargill – Jun. 2020)**
>
> *"We are Fairtrade certified and we believe that Fairtrade is a good start among different certification. But we've been with Fairtrade since the start because I think that is the only certification that says something about pricing, that should be a minimum price. And we still believe the price is not high enough, but still they do say something about it, so we are committed to be Fairtrade certified, but it's only a starting point. Not end game."*
>
> **(Henk Veldman, Tony's Chocolonely – Jun. 2020)**
>
> *"Again, for the brand it is a marketing. It depends on the brand, but there are some brands that are a bit weak in the market, but they are UTZ certified. And they're using it as an excuse to say, but we are UTZ, so we are sustainable, we pay for this. But when it comes to negotiation, they pay a premium that is so low. [...] So, what is the goal of the certification if you just pay for the costs of*

the certification? Just don't go for a certification and pay that directly to the farmer. It definitely would make more sense. So, in the way it's done currently, and it's a bit difficult to say that it's a solution. It's always better to buy a Fairtrade bar, or a UTZ bar than a conventional one. But I would say a good mix between the UTZ standards, and the Fairtrade standard would be a good way to go, you should take the good of the two certifications."

(Augustin Planty, CocoaSource – Jun. 2020)

However, the literature shows mixed evidence on the extent by which Fairtrade label is really fair to cocoa farmers, or how the premiums are allocated for the benefit of the community; but the overall results tends to be beneficial when it comes to a higher profitability obtained by smallholders (Fenger et al., 2017; Loconto & Denkers, 2014; Foundjem-Tita et al., 2016; Schweisguth, 2015' Tony's Chocolonely, 2019). Fairtrade International itself recognizes that there is room for improvement. In its survey published in 2018 amongst its West African certified growers, it is indicated that 42% of cocoa farmers are on top of the extreme poverty line (US$ 1.90 per capita/per day); 23% are above the poverty line (US$ 3.10 per capita/per day); while only 12% can realize a living income. The statistics are also compared with the estimative considering the conditions in Côte D'Ivoire, where the extreme poverty line is set at US$ 0.78 per capita/per day, while the poverty line is US$ 1.27 per capita/per day. Taking that into account, a higher percentage of farmers are placed above the poverty line (True Price & Fairtrade International, 2018).

The current challenge faced by Fairtrade though is related to its market absorption. Even considering that certified cocoa demand is growing, it is still occupying only 22% of the cocoa global trade (Nieburg, 2018). Fairtrade certification occupies only 5.5% of the world cocoa area with a production volume of 252,136 metric tons in 2015; compared with 523,157 for Rainforest Alliance and 917,603 metric tons for UTZ in the same year (Lernoud et al., 2017). Fairtrade is still, therefore, a niche market. The possibilities and opportunities to grow are direct related with the consumers' level of awareness, willingness to pay more and understanding of the Fairtrade principles, which remains low in some markets (Gomersall & Wang, 2011).

"From our side, if a customer comes to us with "Okay, I want a certain amount of volume of cocoa beans, and it will be Rainforest Alliance," then we need to make sure that we get that Rainforest Alliance certified amount of cocoa beans to deliver to our customer. Right? And again, it's a shared responsibility across the supply chain and we're probably a bit limited in terms of, how can I market one label more than others. So, there's really like a constraint that comes through the long supply chain of traders, brands, retailers.

(Patric Brandt, Cargill – Jun. 2020)

"Because there is no market for certified products. I mean, there is no immediate, no automatic market. And second, the farmers are not paid back for for all those efforts. They get a premium of 200, 300 euros or dollars, that is 10%."

(Michel Arrion, ICCO – May, 2020)

Indeed, Fairtrade is the most promising option amongst the certification labels. However, its growth is still limited to the consumers' demand, which is not in the hands of traders.

7.3. Empowering women and their role in the income gap reduction

Empowering women have shown growing evidence that contributes to alleviate poverty and vulnerability, benefit the household nutritional intake, enhance the resources conservation behavior, and promote a better investment to the next generation in terms of health and education (Doss, Kovarik, Peterman, Quisumbing, & van den Bold, 2015; Meinzen-Dick, Quisumbing, Doss, & Theis, 2019; Tsiboe, Zereyesus, Popp, & Osei, 2018). In contrast, women are more vulnerable and subject to deeper poverty conditions than men, with data showing that they can represent up to 70% of more than 1 billion of world citizens living in unacceptable scarcity conditions of poverty (Akello & Sarr, 1999; Women Watch, 2010). So, tackling women in developing interventions has a dual role of benefiting themselves individually and the whole household condition they make part of. "When you invest in a man, you invest in an individual. When you invest in a woman, you invest in a community," as well said by IFAD President Kanayo F. Nwanze (FAO, 2016).

Rural women tend to be more in charge of domestic work, reproductive burden, and fetching for water and fuel when compared to men. They indeed assume a great role in agriculture as well with a participation reaching 60% of the working force in some regions of Africa, however mainly as unpaid or as a contributing handworker in the family field (FAO, 2016). Overall, when employed, the jobs given to them are mainly "shorter term, more precarious and less protected than those of rural men" (Women Watch, 2012). Another report also shows that in Cote D'Ivoire, most of women and the male youth do not have any activity to generate their own source of income (Koula et al., 2014 in Iritié & Djaléga, 2016). Also, land holding is predominantly operated by men, whereas available information expresses that less than 25% of the agricultural land ownership belongs to women (FAO, 2010).

When it comes to cash crops, which is the case for cocoa, African women are less in charge than men. At most, females are involved in food and subsistence crops. Traditionally, this is immersed in the fact that they do not own the land, do not have access to credit, high illiteracy rates, they face constraints in accessing assets and resources, their market access is limited, there is a patriarchal inheritance system in place and they are not always considered in the household decision making (The World Bank, FAO & IFAD, 2009; Hill & Vigneri, 2011; Gladwin et al., 2001; Kuusana et al., 2013). In the case of cocoa, additional data show that in Ghana women own 38% of the land, while in Côte D'Ivoire they hold only 20% of the cocoa fields (Kuusana et al., 2013; Marston, 2016).

These gender imbalances show us the urge to put in practice interventions that are inclusive, protective and fair to women; and that there is space to do so. Undeniably, their role as building blocks to reach a more equal environment, to attain a living income and to fight against extreme poverty and hunger needs to be more taken into account in developing interventions around cocoa regions. Combining the information collected from the interviews and the interventions spectrum performed by traders in a horizontal analysis, the role of women in the cocoa environment will be discussed here in terms of *financial and administrative tasks;* and *inclusion and participation of women in income generating activities centered in the cooperatives.*

7.3.1. Financial and administrative tasks

When it comes to poverty alleviation and a better well-being for the family, women indeed tend to allocate their financial resources more effectively than men. The literature available does not make this distinction in very clear terms, but rather shows that there are gender-specific ways and obligations in which financial resources, investments and provisions are placed at the household level (Akello & Sarr, 1999; FAO, 2016; Jiggins, 1985; Women's World Banking, 2014). Men earnings are often destined to individual spending, while women are more concerned with the financial allocation for the family as a whole (Kiewisch, 2015), with clear focus on educating their children, health, nutrition and family well-being (Women's World Banking, 2014).

> "*So in a lot of countries, farmers are paid in cash. And actually, as you said, these farmers don't necessarily have the amount of know-how to be able to manage money well. And so actually, if you give somebody huge amounts of cash, chances are high that they will spend it. Unfortunately, there are also some gender related factors that come in here. But often the cash goes to the male head of household, and are they always the best person at managing the money? Well, often not."*
>
> **(UK Specialist, UK Research Institute – Jul. 2020)**
>
> *"The other thing is that you have to look at the income seen from a household point of view. What is a problem in the cocoa sector in developing countries, especially in Africa is that women are not getting any responsibilities. So the question of empowering women is extremely important."*
>
> **(Michel Arrion, ICCO – May 2020).**
>
> *"They (traders) are helping the farmers to organize themselves towards that direction of other income generating activities. Actually, usually it's the women in the community. The emphasis is on women because women are recognized as being better at managing money and they basically encourage the establishment of loan associations to also help women have more independence."*
>
> **(Alex Ferguson, World Cocoa Foundation – Jun. 2020)**

Overall, females are more concerned with the resilience of the family as a whole. It is worthy to remember that income improvement and income resilience have equal roles to play in the living income framework. Resilience in particular needs to be extensively considered in the cocoa sector, due to its seasonality that does not have a yearly coverage. This creates a "chronic seasonal vulnerability" that leads to scarcity, risks to food security and ongoing debt cycles; with all of them sustaining the poverty trap that the cocoa smallholders are inserted in (Kiewisch, 2015).

> *"You have to think into household because most of the cocoa farmers are men, [...] in West Africa or a small proportion of that is female, but because men*

genuinely own the trees and own land, but there's a very big difference in resilience in a female headed households or male headed households, and also what women do with cocoa income as with what men do. So again, when you look at a cocoa farming system, you also have to look at the household system. And so, the men mainly benefit from it. How do they spend their money? We know that most men spend their income differently than women. Women tend to buy food, tend to educate their children, tend to buy clothing. Men tend to invest it in the house and reinvest it in the farm. So resilience is taken on different aspects, especially if you look at the definition of living income."

(Verina Ingram, Wageningen University and Research – Jun. 2020)

Although with an extensively perceived economic role to play, women are hardly seen as economic actors in Sub-Saharan African contexts, both in domestic and community terms (Msonganzila, 2013). Because of this low intrinsic recognition within the contexts they are, external interventions need to be in charge to promote the gender empowerment and inclusion needed for women to be more in the picture. Again, the idea of women inclusion in these cocoa settings goes one step further of just guaranteeing their right of being there, to incorporate the sense of a better surrounding community for all. Their empowerment, especially in financial and administrative domains would be reflected in domestic and larger terms, giving the community a better chance of resilience, investments on education, nutrition and health; which will surely be slowly translated into a better living income.

"In Latin America the cooperatives are much more powerful, much better organized. They are often run by women, educated women, and you immediately see the difference when compared to Africa, where men are taking the lead".

(Michel Arrion, ICCO – May 2020)

The study conducted by Périlleux & Szafarz (2015) further reinforces the good performance of women in charge of financial cooperatives and their inclination towards social communal benefits. From the traders' perspective, the encouragement of women in dealing with financial and administrative aspects in cooperatives and in household level can work as a two-way road of benefits. So, the presence of women in managing boards would give traders a more sense of security in a long-term, in a way that this community resilience also means resilience on the supply of cocoa, compliance with standards and long-term agreements. While for women, their employment into activities would ensure their independence, their empowerment and ensure that the next generations have a better access to education, health and nutrition, which has the potential to touch upon other major issues such as deforestation and child labor.

"Especially when you talk about child labor, you know, women tend to focus primarily on the future of their children. So, if you want to address child labor, you have to make sure that women are in position to support their children, so they should all have access to income, for example, which is not always the case. So, they do a lot of hard labor on the cocoa farm, but the payment is patriarch. And the man also has control of the funding. So it is something we are now

working on, because it makes more sense for us to focus on that. More, especially if you get our mission to eradicate child labor, modern slavery, then the gender agenda part is very, very important.

We haven't focused specifically on women up to know, but we are in the process of developing a gender strategy".

(Henk Veldman, Tony's Chocolonely – Jun., 2020)

7.3.2. Inclusion and participation of women in income generating activities centered in the cooperatives

While income diversification interventions should be seen more as a joint responsibility than a solely burden carried either by the governments or by the companies, traders have still a substantial participation to perform. Governments should provide an enabling environment for these activities to thrive, while companies could provide the means by which people could be employed or encourage the realization of different activities.

Income generating activities work as empowering the whole community, by allowing a better flux of resources, information and activities in a given location. In rural and poor environments, the encouragement of diverse income generating activities can work as a "big-push" locally. The big push model was firstly conceived by Rosenstein-Rodan in 1943, and one of its mandates says that economic development can be reached through the encouragement of different activities and fields simultaneously, and in this way, enabling and allowing the exchange and flux of goods by people joining different sectors in an economic web. Thus, income generating activities indeed constitute a way of promoting economic development around cocoa localities. As part of an economic hub, these activities can be directly or indirectly related to farming, but they undeniably are a major constitute of a "sectoral shift" out of agriculture, which are related to the development of the "rural non-farm economy" (Loison, 2015). Non-farm earnings are increasingly getting a higher share in the construction of the living income of rural population, reaching up to 35% of the total in Africa, 51% in Asia and 47% in Latin America; and they include activities such as "mining, manufacturing, utilities, construction, commerce, transport […], financial, personal and government services, and agroprocessing" (Haggblade, Hazell, & Reardon, 2010).

Nonetheless, technical gaps, low education, lack of information and even religious obligations can constitute barriers for income generating activities to thrive around cocoa areas (Iritié & Djaléga, 2016). In despite of that, there is still room for some specific activities to take place, and they are pretty much in the hands of the rural women. Females account for approximately 40% of the total full-time "rural non-farming employment" in Africa (and around 25% in the developing world). This workload needs to be combined with their household burden, and therefore, they also occupy a great share in part-time activities, with special attention to home-based services (Haggblade et al., 2010).

"I think what grinders could do clearly is to provide for instance, a macro finance or digital tools but it's always linked to cocoa, but they could find ways to keep the women of the community active, for instance in the packaging in the transportation, in developing small warehouses."

(Michel Arrion, ICCO – May 2020)

"But that can also be off-farm income generating activities. What we have in our program, for example, is very much focusing on women groups, we work with cocoa growing communities as well as villages, saving and loan associations. And what we do, for example, very practically is to implement poultry, chicken production facilities and act together with the farmer organization because you need certain scales to make it viable, you cannot run that with a small farm but we work with women groups. So, women are part of the cocoa household. And then they basically manage those chicken facilities to sell the eggs, to sell the meat and to complement the income, this is an income generating activity."

(Patric Brandt, Cargill – Jul. 2020)

"What you do see is people in those communities particularly women, sometimes they'll set up a small provisions store or they'll set up a business where they really innovate from the food that they grow, they make prepared food that they can then sell to others in the community. So, there are things like that which go on and diversifying income is particularly something that the companies and the World cocoa Foundation have worked with the cooperatives."

(Alex Ferguson, World Cocoa Foundation – Jul. 2020)

The growth and success of these income generating activities are pretty much dependent on the consolidated development of cooperatives. In these scenarios, cooperatives function as a center to gather information, people and some minimum resources for these activities to have a starting point. Via the cooperatives, traders can also influx aid and coordinate the activities held there. This cooperative trigger is particularly important with we consider that most of the cocoa regions are quite far from urban centers and markets, where non-rural activities generally encounter a more fertile environment to develop themselves.

Indeed, the study conducted by Haggblade et al., (2010) have shown that rural non-farm economy does not develop automatically, requiring external factors to enable their operation, such as public policies, access to niche markets, initial investments, access to information and collective action, in the shape of alliances or local groups. In the cocoa contexts, this can be easily amalgamated into farmer cooperatives.

7.4. Conclusion

Although certifications are often seen as a cosmetic intervention, the secondary effects of it are positive to the smallholder as a whole, with special attention to the horizontal chain integration in the shape of cooperatives. Cooperatives are the center not only for external interventions to take place but they also work as a development hub for the local community.

Certification schemes do promote a better integration in both vertical and horizontal terms. Therefore, my hypothesis is confirmed that certification schemes do promote an environment for inputs and information transfer between traders, farmers and other actors in the global value chain. And this is happening via vertical integration, translated into terms of traceability and transparency. Even though necessary for this integration to be effective, traceability and transparency have only marginal effects from the smallholders' perspective and their living income.

Fairtrade labels do work positively in reducing the income gap. In a quantitative comparison, they bring higher financial benefits to cocoa smallholders than the other available certification labels – Rainforest Alliance and UTZ. However, its incorporation in the cocoa global value chain and further market absorption depends on the level of consumers awareness, which is not directly in the reach of traders to influence.

As a relevant integrated solution, women empowerment is a key component in development interventions to close the income gap. Prompted by the establishment of cooperatives, women can be enrolled in financial and administrative tasks and take part on income generating activities, which already are encouraged by traders. Strengthening the gender agenda in cocoa settings is an important strategy to improve the community as a whole.

8. General Discussion and Conclusion

At this chapter, critical reflections are made by combining the empirical findings with the theoretical framework to answer the research question.

8.1 Global value chain dynamics in the cocoa living income

8.1.1 Chocolate breakdown

When it comes to living income, much is discussed about simply dividing more equally the profits obtained in a chocolate bar among the different actors in the global value chain. However, this is somehow a naïve discussion, whereas living income interventions require a more in-depth approach. In general, most of the agricultural commodities from poultry, to milk, bananas or broccoli, farmers get a smaller proportion of the retail price (Alho, Hendriks, Stoorvogel, Vellema, & Smaling, 2020; RTL nieuws, 2019). Theoretically, this is due to their position in the chain and the small added value contribution the farmers have to the final retailed product.

In contrast, the companies in the chocolate processing are high intensity capital industries, which mean that they indeed add value to the commodities by transforming and manufacturing the cocoa beans into cocoa butter, powder, liquor, etc. This is how conventional commodity global value chains work. Because of this typical arrangement, the discussion on cocoa livelihoods should go beyond that idea of profit breakdown to focus on the living income benchmark.

Aligned to that, it could eventually be the case that giving a bigger share of a chocolate bar profit to cocoa smallholders is still insufficient to guarantee a decent life. We can also go further and remark that chocolate is not only cocoa but sugar, milk, vanilla among other ingredients, and in a perfect setting, a living income should be reached by all of these commodity producers. The ideal is then having a more holistic view in the context where cocoa livelihoods are inserted, and the opportunities and challenges faced by smallholders to realize a living income.

8.1.2 The motivations behind shared responsibility – Traders' performance on the living income

Grinders are indeed engaged in shared responsibility practices, pretty much motivated by having a stable supply of cocoa and maintaining the global value chain alive in the first place; and secondly by answering to the consumers' demand for a more sustainable sourcing.

As seen, the motivations to promote more shared responsibility are tightly linked with the kind of outcome the traders want to have. On other words, these motivations directly shape the nature of interventions that are put on the ground by traders. Also, by being private actors, interventions are basically framed in such a way that are financially cost-effective for them, which somehow explain why discussions on directly enhancing prices were not a viable mechanism for the big traders, but mentioned by some key actors in the academia, by Tony's Chocolonely and CocoaSource. In this business realm, interventions with the capacity of reducing the transaction costs are also very much in the core, and they can be translated into strengthening the cooperatives.

Regarding the stable supply of cocoa, all the traders interviewed stated that they have programs on yield increase, which directly feed their primary intention. Their interventions on this field has only a local approach, without considering macroeconomics risks of an oversupply and consequently cocoa price drops, which would negatively affect the living income of cocoa smallholders.

Crop diversification stimulation, a very common approach among traders as well, is done in a way that cocoa would still being the major crop produced. In general, crop diversification was encouraged by traders towards food crops, without considering other tree crops such as nuts or rubber, which has a higher potential to improve the living income of farmers (Fourcade, 2018). Because of lessons from the past, there is clear evidence that cocoa farmers can indeed migrate to other cash tree crops if they have the means to do so (Nasution et al., 2019). This explains why the traders' incentives are narrowed down into some food crops instead.

The same goes for income generating activities, which are promoted within the cocoa cooperatives and depends on the structure built for cocoa to thrive. So, cocoa works as the main pillar sustaining these secondary activities under its umbrella. However, because of the poverty trap experienced by smallholders, depending their livelihood too much on cocoa will chronically keep them under poverty occurrences. Then, although beneficial, the interventions done to secure a stable cocoa supply are mainly feeding the interest of companies rather than promoting a structural change on the income gap of cocoa smallholders.

When it comes to consumers' demand for a more sustainable sourcing, the certification is the main answer applied in the supply chain. Traders as the closest node to the primary production are the ones delivering the certification request to the farmers, and also working on realizing the standards among smallholders and cooperatives.

The main certification schemes in the cocoa chain, however, are overly discussing deforestation, biodiversity preservation and child labor, instead of directly touching the issue of farm gate prices. The point I want to make is that deforestation and child labor in cocoa, for instance, are symptoms of the extreme poverty, and not the other way around. By treating symptoms and not the root causes, the secondary problems are likely to persist. With the exception of the Fairtrade label, certifications can be considered a cosmetic solution for the income gap.

Therefore, the motivations for traders to engage in more shared responsibility are of course relevant to take into account because they directly shape the kind of interventions they apply on the ground, which can make them biased or too inclined to interests that not necessarily reflect the smallholders needs.

This is why income gap interventions do require the participation of different actors, in a way to balance what is economic feasible, socially acceptable and environmental viable. In that sense, retailers should be more integrated and participant of sustainable practices. They are often held not accountable for practices carried out upstream at the chain, while they are a massive and very important node in the cocoa value chain. When it comes to concepts of CSR, companies have responsibility for practices conducted by their suppliers and partners firms, which attributes a certain level to supermarkets as well.

8.1.3 Market concentration among traders and interventions on living income

The grinding node in the chocolate chain is indeed concentrated. Counter intuitively, this concentration and competition have proven to not direct contribute to the farmers' poverty and low income. This is actually attributed to their low productivity and lack of alternative income generating opportunities (Oomes et al., 2016).

By stating that, this market concentration can be rather seen as an opportunity to promote structural changes in the cocoa global value chain. First, any joint intervention or sectoral discussion only requires a few actors at the table for decision-making processes. This facilitates the terms and can enable a common ground to be reached easily in multi stakeholders' platforms.

Secondly, as each of the big traders – Barry Callebaut, Cargill and Olam – own a substantial market share in grinding and trading cocoa beans, any mechanisms that they put in place to help the primary production have the potential to reach a significant amount of farmers, and possibly generating a wave of change.

Third, because of their power and strong capital, the big traders have and stable cash flow and therefore the financial capacity to invest and spend money on sustainability projects, even if the returns from it are not immediate or are even marginal. Their size allows them to build bigger projects that requires extensive amounts of money.

In summary, traders' size and power should not be seen as predatory from the smallholder's perspective. Both factors can be translated into benefits for farmers when well incorporated and monitored. Therefore, interventions should receive a special attention from public and civil actors (such as NGOs or academia). In this way, the economic interest of traders can be better balanced, while the perspective and needs of smallholders are taken into account.

8.1.4 The key role of cooperatives

Cooperatives have the potential to improve, strengthen and increase all the upgrading opportunities mentioned over this thesis as a possible mechanism to reduce the income gap of cocoa smallholders. By being inserted in a group, smallholders get a better access to the market, information, aid, certification, technologies, inputs, access to credit. So, it is a joint effort that is translated into individual benefits at the farm level. More than that, the creation of cooperatives enhances the community livelihood as a whole, by incorporating women, giving room for new local markets or even delivering services such as education. Therefore, cooperatives can touch upon different leverages for a decent livelihood beyond income. Anyhow, Fischer & Qaim (2012) further shows that linking smallholders into cooperative have indeed led to a better income among farmers, due to the higher levels of innovation incorporation in the field that is facilitated by the information exchange therein.

If we additionally consider the relationship between traders and smallholders being held via cooperatives, and the consequent acquirement of a certain economy of scale for farmers in that way, negotiations can be facilitated for both sizes. Although power imbalances are still present, they are relatively dissolved when cooperatives are in charge instead of singular farmers. In the same line, the transaction costs between traders and cooperatives are reduced when compared to scenarios where cooperatives are absent. They translate the language of hundreds or thousands of farmers into one, and vice versa.

As undeniably an essential mechanism to increase the living income of farmers, cooperatives can still carry negative management practices, inclined benefits to certain farmers clusters and corruption. However, if assisted and encourage by external institutions – or even traders -, education and training can take place to eliminate these behaviors as much as possible.

8.1.4 Is certification a viable mechanism to close the income gap?

Currently, no. But there are relevant points that are brought from certifications that needs to be put on the table. Additionally, the application of certification for smallholders undeniably require some special conditions – such as cooperatives, transference of information and inputs, better agricultural techniques – that promotes direct benefits to farmers.

First, we need to touch upon the main certification labels, UTZ and Rainforest Alliance. They have answered to some of the consumers' concerns of the cocoa chain, specially related to deforestation and environmental related subjects. But when it comes to the living income, their improvements remain marginal. The certification premium paid to farmers often covers only the cost they have to be certified, instead of substantially improving their income. I see this as a consequence of two mechanisms present in UTZ/Rainforest certified chains: one, the fact that the premium comes as a negotiation between traders and smallholders; and second, the lack of a minimum price established per weight unit and that is capable of covering at least the production costs and a decent livelihood.

These two factors combined makes the main certification schemes insufficient to substantially reduce the income gap. In contrary, Fairtrade labels simultaneously establishes a minimum fair price regardless the international market benchmarks that aims to cover the production costs and deliver a decent life to smallholders; while paying an established premium based on the local realities rather than in a negotiation between companies and farmers. Just for these two aspects, Fairtrade represents an advantage to cocoa smallholders in terms of obtaining a better income, when comparison to the other schemes.

The problem then lays in the market absorption of Fairtrade labels. Because of its higher prices in the production node, the whole supply chain translates its costs to the consumers, making Fairtrade products more expensive than UTZ/Rainforest Alliance. To promote a better market absorption, consumers need to be willing to pay more, which is not always the case. In this scenario, I believe that UTZ/Rainforest Alliance should absorb new mechanisms of applying its certification premiums and how to negotiate them for the benefit of smallholders. As they both occupy important market shares, they are capable of producing a substantial change to many smallholders worldwide.

As discussed, certification schemes in general do promote a better integration vertically and horizontally in the chain; and in both axis the smallholders can take advantage by having access to better market opportunities, information, inputs and innovation. However, certifications should not be seen as a magic and solely solution to solve the income gap. They need to be rather inserted in a pool of additional solutions. It is also important to point out that certification schemes have been promoting relevant improvements on the environmental aspects of cocoa production, and these are intrinsic factors of a sustainable cocoa sourcing. This per se justify the encouragement and growth of certification schemes.

Overall, certification schemes still need to be promoted in the cocoa supply chain because little improvements are better than nothing when it comes to enhancing the income of farmers. Nevertheless, a redesign of their application is needed to better address questions involving socio-economic matters from the smallholders' perspective.

8.2 Conclusions on the main research question

The previous empirical chapters worked as building blocks to draw conclusions to this thesis main research question: *What are the possible mechanisms through which traders can engage in more shared responsibility in reducing the income gap around cocoa farmers in certified global value chains?*

Overall, traders are indeed enrolled in shared responsibility interventions in addressing socio-economic and environmental issues that persist in the cocoa global value chain. To do so, they make use of their financial power, governance coordination, influence and position in the chain to delineate their actions. These actions can be understood as chain upgrading mechanisms, and they are not only unfolded as acquiring new capabilities for smallholders, but also how the relationship between them and the traders are realized.

The four kind of chain upgrading, derived from the Global Value Chains conceptual framework, could be observed as a result of the traders' interventions, and they can be divided in *cocoa specialization* (product upgrading and process upgrading) or *cocoa diversification* (functional upgrading and inter-sectoral upgrading). Both specialization and diversification mechanisms are better developed in certified frameworks, as a result of the vertical and horizontal integration they deliver to the chain. Also, all the upgrading mechanisms analyzed have the possibility to increase the income of farmers, but they all have limitations, either in terms of barriers, efficiency, scope, or market dynamics. This is why these upgrading mechanisms are better applied considering synergies among them, and in this way, balancing the trade-offs. Overall, mechanisms involving price increase were not mentioned as a main option by traders, under the justification that cocoa prices follow the market laws.

By analyzing these mechanisms in a holistic way, important insights beyond the upgrading opportunities came to the surface, together with the need to understand why farm gate prices is still a key component in building a living income for cocoa smallholders although not often mentioned by traders as a viable way to go. The next session will discuss the price relevance and extra strategies, even though they are not necessarily in the hands of traders to be realized.

8.2.1 Why the discussion on farm gate price is still relevant?

Although the living income story is composed by different leverages to structure a decent life – such as education, health, nutrition, resilience -, in the end it is still a financial benchmark by which all the other elements can be bought or reached by capital means. So, money per se cannot be a secondary mechanism but it should actually be an important factor to be considered when interventions are pursuing the realization of a living income.

Additional mechanisms indeed help to build a more sustainable livelihood to farmers, but they are, again, treating the symptoms of poverty instead of treating the main disease which is the lack of resources. Not only child labor and deforestation occurrences, but also high mortality rates, high illiteracy levels, insufficient infra-structure, lack of education, are all elements resultant from poverty; and they are constantly reinforcing each other. A lot of these factors are also a result of the lack of public services. The government absence and aid in these cocoa settings make the urge for a higher income even stronger, as cocoa smallholders are walking by themselves in trying to reach all the elements of a decent life.

This financial income can naturally be obtained by a reasonable price paid for the cocoa, but also for the other crops cultivated by the smallholders in crop diversification movements. An attention to price is relevant also to attend the grinders' motivation on having a stable supply of cocoa, as the farmers' choice to stay growing a certain crop is determined by its price and marketing possibilities (Knudsen, 2007).

It is known that currently the prices of cocoa are controlled by international market laws and touching upon price can further lead to deforestation or not even be sufficient for very small landowners. So, although necessary, interventions on price are still a challenge that requires different actors to design the best way to do so. The literature indeed lacks on research in how cocoa prices could be effectively enhanced by means other than certification premiums or government control, which shows controversies of either or not they do help farmers to have a better living income or if a free market would be a better approach.

So far, the payment of certification premiums seems to be the most achievable manner, and for that to reach its best scenario, the whole chain should encourage the adoption of a Fairtrade premium. Chains with the Fairtrade certification no only join of an extra premium, but also the fixed price for cocoa is based on the local realities instead of the international market fluctuations. Starting from that point, cocoa prices per ton are already much higher than conventional farm gate prices, and smallholders have the opportunity to be one step ahead in reaching the living income benchmark.

On the other side, attempts to control the market is constantly showing its flaws, based on the Ivorian scenario. Although there is a minimum farm gate price, much is retained by the government in the form of taxes and Ivorian farmers are among the least paid cocoa farmers in the world (Laven et al., 2016).

International forums could be created to control the price among producing countries, but the fact that there is no dialogue or discussion table created in this sense until now already shows that a common ground is far from being reached. It is worth to remember that were already movements in the past in trying to control the cocoa market and prices among certain countries, which failed (Behrman, 1968). As a way to regulating it as price seems to be a very difficult variable to manage, countries could possibly discuss on terms of national production quotas. This would lead to a certain stability in the global supply and therefore, reduce one of the fluctuation variables that compounds the international price formation.

Overall, a further debate on cocoa pricing should be on the mainstream, and they need to involve different actors to promote a reasonable solution. Interventions need to guarantee that farmers are indeed receiving more for their cocoa, in place of some cosmetic solutions that do not solve the income gap substantially.

8.2.2 Extra insights

A) Exit strategy

As stated, the high dependence of smallholders in cocoa would keep them in the poverty trap. Even with additional aid and alternative mechanisms in place to help them to alleviate their poverty status, their income would still be too low to support a decent life, as a result of a small field, low productivity, big family size, low prices, etc. These are the common elements seen around cocoa areas, particularly in West Africa. In these cases, some smallholders will never be able to reach a living income by depending too much on cocoa, and they should be assisted to abandon cocoa and go to different sectors.

This is a very sensitive point to discuss with an important literature gap, because it not only involves projects on living income, but personal and cultural issues as well. Cocoa smallholders are planting cocoa in a cocoa community, and their lives are totally intertwined in a cocoa web. Not necessarily going out of cocoa would be their primary will, but undeniably necessary in certain circumstances to take them out of poverty.

As so as was made for cocoa, governments should campaign and allocate smallholders into sectors that have promising market opportunities. By putting some smallholders out of cocoa, the ones that remain can be further professionalized with yields incentives to offset the ones that went out.

Regarding the possibilities to diversifying to other crops, cocoa regions constitute a fertile setting to other cash crops as well. In her thesis, Fourcade (2018) have shown that moving towards rubber, palm oil or nuts can be an alternative for cocoa growers, but this movement requires access to some specific resources that smallholders not necessarily automatically possess. The possibility of relying on a multiple strategy of income sources would guarantee cocoa growers a higher degree of resilience and make them less vulnerable to cocoa market fluctuations.

In the case of diversifying towards non-farm activities, external aid also needs to be in place and this is pretty much in the hands of governments. First, the provision of basic infra-structure per se allows the emergence and the establishment of additional activities, which will unfold employment opportunities. However, in the case of cocoa farmers, going to new activities can constitute a big challenge because of their lack of know-how in performing activities other than farming. Nevertheless, skills constraints can be reduced by local policies (Barrett et al., 2001).

This reflects the importance of tailoring interventions, to design specific strategies taking into account certain smallholders clusters. Some more well established and professionalized farmers can go towards cocoa specialization; while others with a smaller plot and more vulnerable conditions could walk towards diversification. Yet, diversification here can be within farm or additional income generating activities.

B) Payment for ecosystem services

Having a more sustainable cocoa sourcing in terms of the environment and climate change resilience is a main topic when it comes to the consumers' demand. Currently, this is answered by the application of certification standards in the global chain.

However, as stated, certification has a marginal contribution to the living income, at the pace it only treats punctual issues of the cocoa chain. Adopting a strategy of paying smallholders for their environmental services would fight two issues at once: deforestation and reducing the income gap. The payment for ecosystem services can be defined as "transfers that reward smallholders for improving agricultural practices and land use that result in better provision of ecosystem services" (Porras et al., 2015).

So far, cocoa smallholders are incentivized to create agroforestry system as a certification standard for specific labels. In the case of cocoa agroforestry systems, if three density and canopy cover are well considered, cocoa yields can boost up to 50%. "A win-win for biodiversity and the smallholder" (Waldron et al., 2015). The maintenance of the shades, in despite of cocoa intensification systems, gives farmers more environmental resilience to climate change and pests outbreaks as well, which has local and broader effects (Vaast & Somarriba, 2014). Combining all these benefits, growers could receive an extra premium from certification to keep the forest alive, for example.

Additional systems could be created with public incentives as well. Seeberg-Elverfeldt et al. (2008) have studied the payment of environmental services in the form of carbon sequestration compensation in Indonesian cocoa plots, sustained by the local government.

For this kind of intervention to thrive, several stakeholders need to be engaged to design how these payments can be materialized and how this can help in the realization of a living income for cocoa smallholders. In these discussions, factors such as farms size, kind of environmental service provided, public-private partnerships, consumers' demand and certification schemes scope need to be internalized.

8.3 Research limitations and future recommendations

Apart from some methodology limitations which were mentioned on chapter 4, this research also faced issues on its reach/scope. One important point is that I extensively analyzed the traders' perspective on living income, without considering the real sentiment of farmers in relation to the interventions that they are targeted. In this sense, some conclusions might be biased because they were based on my limited data collection and on the information I had access to.

Similarly, apart from Tony's Chocolonely, brands were not approached even though they are also in charge of some responsibility programs targeting farmers and their living income. Overall, there are also multi-stakeholders platforms going on with the main goal of improving the livelihood of cocoa smallholders, in which both traders and brands are working together.

In the same way, only Rainforest Alliance was interviewed in representation of the certification schemes. Although they represent a lot of the market, especially considering the recent merge with UTZ, listening to Fairtrade International could have positively added to the conclusions, as it was titled as one of the most promising solutions in closing the income gap.

Future research should, therefore, focus on a multidimensional method in order to not only understand the companies' perspective on the living income, but also to map how smallholders really feel regarding the interventions they are being targeted, making it a two-way road approach. In addition, an important look should be given to the small portion of farmers that could realize a living income and, in this way, understand all the steps they needed to follow to reach that benchmark. This would undeniably generate an understanding from the perspective of smallholders, and eventually enable the same strategy to be replicated efficiently, considering individual realities.

Over the development of this thesis, important data gaps were found. In this sense, further research or political debates should be conducted in how to promote improvements on cocoa prices and how to design tailored strategies to put farmers out of cocoa when this is the most viable mechanism to escape from the poverty traps. Both discussions on enhancing prices and exit strategy are not extensively covered in the available literature. Furthermore, the two topics require a deep analysis of micro and macroeconomics, and how different actors would behave by facing these strategies.

As a recommendation, the role of supermarket needs to be more in the picture in sustainability interventions. This is particularly important in certified value chains, where the system is fully integrated from the farmer to the brands but does not incorporate the retailers. Given their power especially in North American and European countries, supermarkets also have a role to play in the living income of cocoa smallholders.

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Appendices

Appendix 1: List of formal interviewees whose data were utilized to draw the empirical chapters

Name of Organization	Name of Interviewee	Actor characterization	Date and format
Barry Callebaut	Anonymous	Cocoa trader and grinder	Semi-structured interview. June, 2020.
Cargill – Cocoa and Chocolate	Mr. Patric Brandt	Cocoa trader and grinder	Semi-structured interview. June, 2020.
Cargill – Cocoa and Chocolate	Mr. Rob Willemsen	Cocoa trader and grinder	Semi-structured interview. May 2020.
CocoaSource	Mr. Augustin Planty	Cocoa trader	Semi-structured interview. June, 2020.
ICCO – International Cocoa Organization	Mr. Michel Arrion	Association of countries – Public sphere	Semi-structured interview. May 2020.
ISEAL Alliance	Ms. Sheila Senathirajah	NGO	Semi-structured interview. June, 2020.
Federation of Cocoa Commerce	Mr. Robin Dand	Association between companies – Private sphere	Semi-structured interview. May 2020.
Olam	Mr. Pierre Braun	Cocoa trader and grinder	Semi-structured interview. June, 2020.
Rainforest Alliance	Mr. Erica Smit	Certification scheme – Private actor	Semi-structured interview. May 2020.
Sustainable Food Lab	Ms. Stephanie Daniels	NGO	Semi-structured interview. May 2020.

Tony's Chocolonely	Mr. Henk Veldman	Chocolate brand	Semi-structured interview. June, 2020.
UK Research Institute	Anonymous	Academic specialist	Semi-structured interview. June, 2020.
World Cocoa Foundation	Mr. Alex Ferguson	Association of companies – Private actor	Semi-structured interview. June, 2020.
WUR	Ms. Verina Ingram	Academic specialist	Semi-structured interview. May 2020.
WUR	Ms. Maja Slingerland	Academic specialist	Semi-structured interview. June, 2020.
WUR	Mr. Enrique Uribe Leitz	Academic specialist	Semi-structured interview. June, 2020.

Appendix 2: Interview guide

The questions were organized in three main sections.

The first section is very broad questions which have the goal to get the respondents' overview on the topic and encourage them to share their perspective. These questions will be the same for all respondents. Here, I can also get participants' understanding of key concepts.

The second section is made of more specific in-depth questions related to my research question. The respondent is feeling more valued since he/she has just shared their personal experience on the first stance. The way questions are built here are also related to the answers obtained on the first block. "You mentioned this, therefore, what you think about that?" So not necessarily the precise question will be asked. The topics of which I want information on are highlighted. I must cover them in this second part.

In the concluding section, I ask about clarification on anything that may not very be very clear in the sections before. In this section, I also include questions related to my conceptual framework of choice: global value chains theory. "Research shows that global value chain can explain this and that, in your experience how this has happened in practice?"

Most likely not all the question will be asked, since there is some overlapping between them.

INTRODUCTION

Introduce the study (what am I doing, what are my goals)

Introduce your organization

Introduce yourself

Inform interviewee of confidentiality

Inform interviewee/respondent of anonymity

Inform interviewee of right not to answer a question if they do not wish to

Inform interviewee of right to stop the interview at any time without jeopardy

Get consent (verbal or written) to participate

Get consent for audio recording

QUESTIONS

1) Broad questions

What is your view on the cocoa global value chain? How is your experience in the cocoa global value chain?

What do you understand as the role of private organizations in the cocoa chain?

What do you think about certification schemes? Rainforest Alliance?

What is your understanding of living income?

How do you understand the concept of sustainable cocoa economy?

2) In-depth questions

Does everyone in the chain have the same level of responsibility in bringing a better income to cocoa farmers?

What do you think about the level of power/influence of the traders in the chain?

Motivation

What have your company done so far?

From a business perspective, what motivates traders to more shared responsibility?

Secure cocoa supply / compe titive advantage / prevent violence / Consumers pressure

Variables and barriers

Do you think that income improvement is as important as income resilience? Why?

*** Income improvement**

Do you think that joining a global value chain is a necessary condition for farmers to reach a better living income/alleviate poverty?

To understand the farmers real needs has proven to be an important tool. Not only differing them from other crops, but inside of the cocoa sector. How would you do that?

Do you think that enhancing the prices or having a price control would work?

How you think farmers could improve their yields? It is clear that farmers need an external tool to make that move.

Is the price to be certified a big barrier for farmers to join the chain? Traders could help that?

Do you think that certification schemes have proven to be good enough to guarantee a living income?

How do you see the role of certification schemes in contributing to higher yields? Do you think Rainforest Alliance/UTZ promotes that?

Rainforest Alliance/UTZ certifies also the chain of custody. How do you see it? (a benefit, only a market response)

What you think about middleman and their role in the chain?

How to improve the financial access to farmers? Could traders provide that?

Is barter operation viable with cocoa farmers? Or any other contracts or locking partnerships are important? Why?

Is the informality aspect something that hampers you from establishing partnerships with growers/cooperatives?

*** Income Resilience**

Do you see crop diversification as a more social or environmental tool in growing areas?

How a certification scheme could help with that?

Commercially speaking, what do you think about crop diversification? Companies could also encourage that?

Do you see crop diversification as something that could have impact on the stable supply of cocoa?

How do you see income diversification with non-farming activities in cocoa areas? How could traders help with that process? Opening local facilities?

3) Wrapping up and conclusion

Do you think that the power owned by companies in the chain is positive or negative to farmers? Why?

Do you see the market concentration of traders an advantage or disadvantage in alleviating poverty?

To wrap up, in your personal experience, what would you do to promote a better living income to farmers?