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Relevance of ecolabeling and voluntary certifications for the UN's Sustainable Development Goals: a case study in the cocoa market in West Africa

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- A case study in the cocoa market in West Africa -

Master Thesis by
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I. Executive Summary

Over the past few decades, the world has seen significant growth in voluntary sustainability standards (VSS) in the global market. Most commonly known as eco-labels, they encompass all voluntary market-based initiatives that promote sustainable production and business practices. This development follows a general trend that tries to find solutions to the multitude of social, economic, and environmental issues existing today. Global actors generally strive to achieve sustainability through the Sustainable Development Goals (SDGs) set by the United Nations, and many believe that VSS can be a viable solution to achieve these objectives. However, critics has started to arise from experts about the presupposed positive results of eco-labels and several experts have started questioning the usefulness of VSS for trying to reach the SDGs.

This study aims to demonstrate whether these allegations are well-founded. The work is divided into two part. First, it sees if drawing a parallel between eco-labels and the SDGs is relevant regarding their characteristics. Second, it assesses the impact of eco-labels in a given market, to show their potential usefulness for reaching the SDGs. To achieve these results, an evidence-based systematic review was performed about the cocoa market in West Africa. The sorting of the existing literature followed a rigorous selection based on several reputable studies (Frondel and Schmidt 2005; Greenstone and Gayer, 2007; Ferraro, 2009; Blackman and Rivera, 2010). These methods make it possible to have reliable studies with credible counterfactual outcomes. Therefore, all studies that did not use a rigorous approach, such as using experimental or randomised data, matching, or instrumental variables, has been avoided for the final analysis. From this selection, 10 studies were chosen to demonstrate the impact of three cocoa eco-labels: Fairtrade, Rainforest Alliance, and UTZ.

The table below roughly summarises the results obtained for the three labels established in Côte d'Ivoire and Ghana.

Eco-labels	Country	Poverty	Child Labour	Deforestation
Fairtrade	Côte d'Ivoire	+	n/a	(-)
	Ghana	-	(+)	(-)
UTZ	Côte d'Ivoire	-	-	(-)
	Ghana	-	-	(-)
Rainforest Alliance	Côte d'Ivoire	+	(+)	(-)
	Ghana	+	(+)	(-)

Note: + = positive outcome; - = negative or non-existent outcomes; n/a = no data found. Symbols in brackets ( ) indicate there is not enough data to conclusively attest to the results.

Several important details emerged from the results:

▪ At this moment, **the number of rigorous studies available about the cocoa market is not sufficient** to prove the usefulness of eco-labels. More research is required to obtain a better understanding of their impact.

▪ The **outcomes depend highly on the label scheme**. All eco-labels are not equal in terms of performance and efficiency. Fairtrade and Rainforest Alliance seems to be improving the situation better than is UTZ.

▪ **Eco-labels can be considered efficient for tackling poverty**. Generally, they help increase the net income and the productivity per hectare of farmers in those regions.

- The **results are more mixed in regard to child labour**. Some positive improvement has been found in certified farms. For example, the level of education on those farms are higher than on their non-certified counterparts. However, several other variables could have influenced those outcomes, such as government or NGOs operations. The data was insufficient to corroborate this assumption.

- There is **no evidence that certifications diminish deforestation in Côte d'Ivoire and Ghana**. The overall situation in these two countries has even worsened over the last five years. Nevertheless, this conclusion is based on allegations and a non-robust methodology. Unfortunately, there is currently no reliable study evaluating the impact of eco-labels on deforestation. The main reason are a lack of accessible quality data, inconsistency and disagreement regarding the indicators used by the researchers, and the difficulty of monitoring those indicators.

A great deal of additional detailed information is discussed in the analysis section for more precision.

Finally, additional market details are discussed following the analysis. The cocoa market appears to have characteristics which make it more difficult to solve the previous socio-economic and environmental issues. First, monitoring the cocoa supply chain is much more complex than for most other foodstuffs. It is almost impossible to keep track of the entire production chain in this market. Then, the certification schemes and their auditing seem far too permissive. The lack of serious monitoring from the eco-labels allows too much abuse in the beginning of the supply chain. Finally, the cocoa market can be divided into two interest groups, one made up of multinationals and certification organisations wishing to defend the idea of eco-labels and the other made up of governments and non-profit organisations preferring the joint efforts to be more focused on the price of beans. This splits makes integration or even the actions of eco-labels much more difficult and can negatively influence the certifications outcomes.

In conclusion, given the limited data available about the cocoa market, it is difficult to make a definitive statement concerning the usefulness of VSS. They may be effective in improving a few socio-economic issues, such as poverty, but they seem far from sufficient without the help of third-party stakeholders.

This work recommends improving, before anything else, research on this specific market. It would also be necessary to create a standardised methodology for analysing the impact of certifications in order to improve the quality of analyses - especially as regards the environment - and in order to reduce biases or disagreements between experts. Then, it is important to more widely consider the internal and external market factors that have had a significant influence on the actions of eco-labels, to avoid bias in their results. Finally, improving the monitoring of certified farms and cooperatives should be a priority for certification agencies, to reduce abuses in the market.

Must evidence suggest that price is a major factor in the resurgence of sustainable issues in this market. Thus, it would be wise for certification bodies to focus their work on this aspect if they intend to help reach the SDGs more quickly.

Keywords: eco-labels, Sustainable Development Goals, voluntary sustainability standards, impact assessment, poverty, child labour, deforestation.

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V. Acronyms

ANADER	National Rural Development Agency (of Côte d'Ivoire)
CAM	Cocoa Accountability Map
CMA	Chocolate Manufacturers Association
CRS	Corporate Responsibility Standards
EC	European Commission
EU	European Union
FAO	Food and Agriculture Organisation
FiBL	Research Institute for Organic Agriculture
GFW	Global Forest Watch
HCVA	High Conservation Value Areas
HS	Harmonized Commodity Description and Coding Systems
IAEG-SDGs	Inter-Agency and Expert Group on SDG Indicators
ICRAF	International Centre for Research in Agroforestry
IFOAM	International Federation of Organic Agriculture Movement
IO	International Organisation
ICCO	International Cocoa Organisation
ILO	International Labour Organisation
ISO	International Organization for Standardization
ITC	International Trade Centre
MDGs	Millennium Development Goals
NGO	Non-Governmental Organization
OECD	Organisation for Economic Co-operation and Development
RA	Rainforest Alliance
SDGs	Sustainable Development Goals
SWI	Swiss Info – *Radio Télévision Suisse*
UN	United Nations
UNCED	United Nations Conference on Environment & Development
UNCHE	United Nations Conference on the Human Environment
UNCSD	United Nations Conference on Sustainable Development
UNCTAD	United Nations Conference on Trade and Development
UNIDO	United Nations Industrial Development Organisation
UNEP	United Nation Environment Program
USITC	United States International Trade Commission
VSS	Voluntary Sustainability Standards

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1. Introduction

1.1 Situation

The year 1972 can be characterised as the historic starting point that led global mobilisation through the prism of sustainable development. That year, Stockholm held the United Nations Conference on the Human Environment where, for the *first* time, developed and industrialised countries joined to discuss and define the rights to a healthy and productive environment. This conference came out with many social and environmental practices and policies and, more importantly, introduced an early version of the United Nations Environment Programme (UNEP) (Gándara, 2013). Oddly, this year also presented a drastic change in the organic agriculture movement with the creation of their first international federation, the IFOAM. Forming a coalition in Versailles between several associations from France, Sweden, the United States, and few other countries (IFOAM, 2012), the federation's founders aimed to promote market-oriented information tools, such as international standards or certifications for organic farming practices, bound to the food-processing industry (Raynolds, 2004).

Since then, local and international mobilisation has spread rapidly to tackle social and environmental issues in the global agricultural market. (Brenton, 1994; Sand, 2015). Subsequent to the Earth Summit, a global consensus was finally reached to rally all key actors, and a non-binding agenda was established for all governments (Agenda 21 - UNCED, 1992). Although the summit's aim was to broadly define an approach to environment and development issues, and to remind governments of their responsibilities, this agenda built at least the foundation for the prior Millennium Development Goals (MDGs) and the current Sustainable Development Goals (SDGs). From then on, international cooperation has had at its disposal globally accepted key indicators to viably measure improvements made on crucial global issues. Many non-governmental organisations (NGO), industries, and governments aligned their activities with the SDGs' norms which strengthen their lawfulness (Scheyvens et al., 2016; Hege & Demailly, 2018).

Thus, even if the official United Nations (UN) indicators can still be debated, all states are now able to implement relevant, strong policies based on recognised worldwide priorities. Nonetheless, an important amount of global effort has been allocated to the promotion and improvement of private standards. Even international organisations (IO) have started promoting the benefits of the so-called *voluntary sustainability standards* (VSS). A major example is the joint initiative from prominent UN organisations[1] that emerged in 2013. As the

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[1] *FAO, ITC, UNCTAD, UNEP and UNIDO*

3rd Flagship Report of the UNFSS mentions (2018), the forum aims not only to open discussion and analysis about the effectiveness of VSS to reach the SDGs but also to encourage key actors to rely on these voluntary norms. However, despite this general support, VSS and everything related to corporate responsibility standards have started causing division among researchers and critics have started turning against their supposedly good results (Rasch, 2010; Sethi & Schepers, 2013; Christensen et al., 2017). Under these circumstances, it is essential to ask whether the direction taken by IOs is the right one to follow - especially if the goal is to succeed in achieving the objectives pre-set by the SDGs. This is particularly crucial when experts notice the mixed results of the previous non-legally binding set of commitments, the MDGs (Clemens et al., 2007; Sachs, 2012; Fehling et al., 2013).

1.2 Objectives and research questions

Due to the ongoing support of VSS, a careful study of the efficiency of these certifications to reach the SDGs is demanded. Obviously, this subject is vast and complex, and an important amount of research would be needed to provide a proper answer. Currently, the large number of existing labels, with the variety of issues they deal with, makes focusing on a specific subject and market necessary. Thus, this reality already prompted the author to answer a much more reliable and precise question:

- *Is VSS an effective tool to improve the environmental or social impacts of a market and help this market get closer to the objectives set by the UN?*

To answer this question, it would be interesting to see if some existing VSS have succeed in delivering direct or indirect positive sustainable results in a market, results that could be related to the SDGs. It would be necessary, first, to affirm theoretically that these two subjects (VSS and the SDGs) can coexist and are not, in their essence, contradictory. Therefore, this work compares succinctly the objectives described in the UN's goals with those of certain eco-labels. This comparison can either draw a logical parallel between the two or demonstrate their theoretical incompatibility. Then, through a literature review, some VSS are examined to depict their level of efficiency regarding relevant sustainability issues. Of course, the presupposed results of the literature are subject to a rigorous selection to prove their trustworthiness. Finally, additional information is provided through interviews of VSS experts and key actors, to help confirm, refute, or expand the results and data.

Today, many commodities are subject to socio-economic analysis, given the number of sustainability issues linked to their production. The agricultural sector is indubitably one of the most problematic sectors due to its overall impact. It accounts for 26% of greenhouse gas

emissions, monopolises half of global habitable land, and uses 70% of global freshwater withdrawals (Poore and Nemecek, 2018). Additionally, it has been shown that the vast majority of economically active children work in agriculture (Edmonds, 2008). Knowing that VSS mostly intervene in this sector, their presupposed positive impacts could help close the gap between the current situation in agriculture and the goals of IOs. Thus, when one considers a market with a prominent number of active eco-labels and with important sustainable issues, the cocoa industry comes in mind. Despite the market's small size, the overall supply chain makes chocolate rank fifth among food products that generate the most greenhouse gas emission per kilogram. (Poore and Nemecek, 2018) Ahead of coffee (6th), palm oil (8th), and even pig meat (9th). Furthermore, global cocoa production is concentrated since almost 80% of all cocoa beans are produced in one area, West Africa (ICCO, 2019). Additionally, of course, the market is not exempt of various SDGs issues such as poverty, child labour, and deforestation (Public Eyes, 2018). All these specificities make the cocoa market interesting for this work, especially when almost the entire market is carried by one region. The limited number of countries involved may allow for a simplified analytical approach. Furthermore, the presence of several internationally recognised eco-labels (Fairtrade, RainForest Alliance (RA), and UTZ) in these countries allow one to readily draw conclusions about their efficiency. Based on all these considerations, the thesis focuses on the cocoa market to partially demonstrate the impact of eco-labels. Due to technical limitations, only two countries will expose some evidence: Côte d'Ivoire and Ghana. Since they are the two largest producers in the world (ICCO, 2020), the findings of this thesis will remain relevant.

The purpose here is not to reassess the relevance of SDG indicators, even if some debates are occurring over this among scholars (Winkler and Williams, 2017; Mair et al., 2017; Allen, Metternicht and Wiedman, 2018; Caiado et al., 2018). Some criticism could be made about the SDGs and their indicators, especially because of their oversimplicity. However, this thesis works on the assumption that the SDGs are adequate to define all achievements that must be accomplished to resolve global issues. Moreover, this work is not pretentious enough to assume that all types of existing labels will have the same results described here or that all markets will react in the same way or have the same flaws as the selected one. All markets are inclined to different laws, norms and external influences which affect their behaviour. Therefore, the research should be expanded to other markets and labels to confirm whether VSS are relevant for improving the situation in other cases.

2. Definition, background, and current state

2.1 The Sustainable Development Goals

In 2012, during the United Nations Conference on Sustainable Development (UNCSD) in Rio de Janeiro, high-level government representatives and the civil society gathered to reaffirm their commitment to sustainable development. As written in the general assembly resolution (art.I.1, 2012), they want *"to ensuring [again] the promotion of an economically, socially and environmentally sustainable future for our planet and for present and future generations."* During this conference, a decision was taken to reassess a new set of universal goals to replace the MDGs and continue providing targets to reach the Agenda 21. This new set of goals should depict more precisely the objectives primarily emphasized by the MDGs, without diverting the achieved efforts and with simplicity (ibid., art V.B). The outcome was the implementation of the current SDGs.

There are seventeen (17) goals in the SDGs and all should be attained at the latest in 2030 (UNDP, 2020). Under the aegis of sustainable development and its *three pillars* (see Purvis et al., 2018), each of them identifies a current global issue that must be resolved. Those goals were planned to be *integrated*, which means that an action taken in one specific goal has outcomes in others. Therefore, world development should find balance between social, economic, and environmental aspects. Also, each goal is divided by several points, which describe more precisely what they intend to do. There are 169 sub-goals in total, separated between the main goals in a non-proportional manner. In addition to the SDGs, The UN general assembly adopted in 2017 the global indicator framework created by the Inter-Agency and Expert Group on SDG indicators (IAEG-SDGs). This framework is a list of 244 indicators (232 if you exclude repetition), divided among all the 169 sub-goals. Their main purpose is to allow all governments to have at their disposable a shared framework to evaluate the impact of their policies to the SDGs. In any case, as said before, the closing date to reach all the goals is 2030, but some of them follow different deadlines. The 6.6 or 8.b, for example, should be reached in 2020.

At the current state, the overall results are poorly convincing or even negative regarding the 2019 SDGs report or progress chart (UN, 2019). Considering those results, it seems quite difficult to reach all the goals within the current deadlines. At least, a lot of improvements are noticeable in different areas which vouch for the SDGs utilities. So far, the overall results or the methodology used to define the SDGs will not be analysed, but interesting critics have been made through the scientific literature (See, for example, Huck, 2019; Donaires et al., 2019).

2.2 Background and evolution of VSS

Defining VSS can rapidly become blurred since it embodies the overall system of private standards. If a definition should be made in a few words, VSS could be described as multiple complex and voluntary market-based initiatives that seek to improve positively the externalities produced by the global market. Of course, this description is underdeveloped, and a better or more understandable definition is needed. A good example for a proper definition can be found in the paper written by Komives and Jackson (2014). For them, "*Private voluntary sustainability standard systems are an innovative market-based approach to promoting sustainable production and business practices. [...]. They help buyers (both consumers and businesses) identify sustainably produced products, and they guide producers, forest managers, mine and tourism operators, and factory owners and others in the choice of sustainable practices*". Thus, VSS intends to accelerate sustainable behaviour in the market and provide sustainable-oriented information about the product's value chain. Also, those standards are generally "*not created, run, or required by governments or government regulation*". What gives an explanation to the term *voluntary* in VSS. They are mostly driven by multi-stakeholder groups dominated by non-profit organisations or private entities. However, they can be *sponsored* by governments to support their parallel mandatory scheme (Gandara, 2013).

In current days, VSS are referred through many different terms. Depending on the author, the possible terminology can include *private standards*, *certification*, *eco-labels*, *labels,* or *standard systems* for example. In general, all those terms are used arbitrarily to describe VSS, without appending any other meaning. Also, the terms can be widened by more descriptive words as *market-based tools, instruments* or *norms*. All of this aside, VSS depict all types of existing standards. They mostly concern sustainability, but they can also refer to quality or specific governance schemes. Also, they may take different forms. There are probably as many standard's structure as there are existing standards. Nevertheless, in the case of social and environment labelling, they generally follow one of the three types of the ISO 14020 series (table 1).

Obviously, the table is simplified and incomplete, and steers towards non-food products. But it provides, at least, a good first view of eco-standards types. In any case, the standard credibility or growth depends greatly on its form. According to the OECD (2013), *type I* tends to be more commonly accepted, or even supported, by governments and large institutions due to their self-reliant aspect. Also, this table does not mention properly the measurement factors. Or, in other words, what a label measure and does not measure. Ecolabels are generally categorised as single-attribute or multi-attributes standards.

Table 1 - Type of environment labelling

ISO Standards	Definition	Examples
Type I – Ecolabels (ISO 14024)	• Seal or logo based on a set of multi-attributes criteria. • Third party-certified, voluntary schemes focusing on non-food products. • Typically aimed at consumers.	Nordic Swan Japanese Eco-Mark Canadian Environmental Choice
Type II – Self-declared environmental claims (ISO 14021)	• Claims made privately by companies describing a product based on characteristics following general guiding principles. • Not third-party certified but expected to be verifiable and accurate.	Recyclable content Biodegradable
Type III – Environmental declaration (ISO 14025)	• Quantitative indicators of environmental performance based on LCA for objective comparisons between products fulfilling the same function. • Generally, B2B, or used in public procurement	Eco-Leaf Korean Environmental Declaration of Product

Source: Environmental labelling and information schemes, OECD, 2013

Single-attribute rely on one sustainable characteristic, like energy efficiency for example. They are commonly criticised for their oversimplified form, which makes it difficult defining the real environmental impact of a product. However, they remain easy to understand by consumers and can be easily implemented in all industries. By contrast, a multi-attributes standard evaluates a product through a series of sustainable indicators. They are often more appreciated by the critics due to their *sufficient* complexity, but they are more demanding when implemented (Golden et al., 2010).

Anyhow, private standards gained a large amount of popularity for the three last decades. The OECD (2013) claims that the number of standard schemes "multiplied by a factor of five between 1988 and 2009". Also, the biggest increase of standards has been observed in the food industry. These claims are supported by the trend's analysis from the European Commission on organic farmland (EC, 2019), by the ITC's statistics concerning the sustainable markets (ITC, 2019) or even with the joint study between FiBL and the IFOAM (2020). Currently, the Ecolabel index counts 463 eco-labels all over the world. The emergence and proliferation of those marked-oriented tools have multiple reasons, but three tied drivers have

been perceived as the leitmotiv of this growth (Thorstensen et al., 2015). First, by the continuous emergence of global value chains, created and coordinated by multinationals or large corporations. Since transnational supply chains are becoming common, standards are used by those corporations to fulfil the oncoming requirements set by national or international agreement and provide a certain form of valuable traceability (see also, Wirth, 2008). Secondly, by the societal concerns about a more sustainable market production. Sustainability becomes a major concern in politics and consumers are going toward a more environmentally friendly market. Moreover, it seems there is constant support from the IOs to push the VSS into all business' agenda. A lot of their documentation seems having a committed stance for those voluntary norms (see for example ITC[2]; FAO/UNEP, 2013; UNFSS, 2018). And finally, through the additional benefits standards can bring to the companies. Businesses and industries are appealed by the standards performance at achieving financial benefits. The standards tend to give good investment returns or can improve the brand value; therefore, businesses comply more frequently with the standards' prerequisite.

2.3 Cocoa Market and ecolabels

The cocoa market encompasses all products listed in the 18th chapter of the Harmonized Commodity Description and Coding Systems (HS)[3]. Thereby, this takes on board: the beans and all of its forms (HS-1801), all rehabilitated waste (HS-1802), the paste (HS-1803), butter fat and oil (HS-1804), raw powder (HS-1805) and finally chocolate and other food preparation containing cocoa (HS-1806) (USITC, 2019). However, in terms of market value, chocolate is often separated from cocoa beans. In 2016, the beans market was estimated at $9 billion, where chocolate sales represented $112 billion during the same year (UNCTAD, 2019). According to the ICCO (2019), the world production of beans is estimated at 4'849 thousand tons and originate from three regions: Africa with the highest rate of production (76.3%), South America (17.4%) and Asia-Oceania (6.3%).

The market is highly influenced by the price, which is associated by long but irregular cycles. Those cycles are generally not influenced by stockholders' decisions but by investments related to harvest and trees *productivity*. (Squicciarini and Swinnen, 2016). The production-side of the cocoa market is mostly carried out by smallholders in developing countries (UNCTAD, 2019). Thus, many social and environmental issues are affiliated to cocoa. Even today, countless NGOs or newspapers denounce the chocolate industry behaviours about their supply chain governance. The market faces serious issue with poverty (Cocoa Initiative, 2017;

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[2] http://www.intracen.org/itc/sectors/organic-products/
[3] « *The Harmonized [Coding] Systems is an international nomenclature for the classification of products. It allows participating countries to classify traded goods on a common basis for customs purposes.* » – UN Trade statistics, 2017.

Sethi, 2018), child labour (Public Eyes, 2018; SWI, 2020; Food Empowerment Project, n/a) and deforestation (Mighty Earth, 2017; the Washington Post, 2019). Nothing suggests that the situation is improving. Regarding the poverty aspect, even if some recent action has been taken by multinationals, like the Living Income Differential agreement, the price remains too low and producers keep staying in a dangerous level of poverty (Esnault, 2019). For child labour, a report from the National Opinion Research Center assure the number of children working is increasing in West Africa. (Myers, 2019) And many reports provide alarming increases of deforestation in market-related regions (Mighty Earth, 2020). Within this situation, the industry seeks to find a proper response to improve their general situation. Many corporations decide to go through VSS schemes to overcome this bad reputation. Under this new corporate trend, the number of certified harvested areas skyrocketed. According to ITC (2019), between 2008 and 2017, it increases from 150'000 ha to almost 3 to 5 million ha[4]. Surprisingly, this remains a good effort from the industry since is equivalent to, at least, a quarter of the global cocoa production. There are currently four main eco-labels sharing almost the overall certified area: FairTrade International, RainForest Alliance, UTZ and Organic (fig.1). The latter represents all products that comply with the organic regulation from IFOAM's certification[5]. There are several organic certification labels, but the most well-known come from the European Union, France, Germany, or the United states. Again, the production rate is much higher in Africa than in other continents. Almost 85% of the overall certified production is made in the West Africa region (ibid.)

Figure 1 – Logos of cocoa eco-labels.

Note: IFOAM does not have a logo specific to their organisation. Each national certification body supported by this federation create its own logo.

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[4] Since many producers can be certified by more than one label, reporting an accurate amount remains difficult. Therefore, ITC provides a minimum, maximum and average number. These figures are given only to have an overall aspect of the market, it is important to not consider these results as an absolute truth.

[5] List of IFOAM members available through the link below, number of affiliates (807), number of members (574). Not all are cocoa related. (2020): https://directory.ifoam.bio/affiliates

3. Methodology

3.1 Research method and literature review

As seen previously, VSS gained in popularity since the three last decades. However, despite this positive development, especially in the cocoa market, the question remains. Increasing VSS does not automatically resolve the social and environmental issues mentioned earlier. Or at least, scientifically valuable proof should be found to confirm this assumption. Therefore, this work must elaborate a proper methodology to present the relevant research and gauge their suitability. But first, some details must be clarified, and few important variables presented. All in all, this research must describe:

- The official SDGs targets in this case study and the relevant indicators,
- The type of standards this paper will focus on,
- And the current existing labels with their objectives.

Defining those aspects is essential for a few reasons. On one hand, the main objective here is to analyse, even partially, the effect of VSS on SDGs. Therefore, it is essential to rely on official indicators to confirm that some improvement has been made to the goals. On the other hand, this can guarantee that existing eco-labels aim to diminish poverty, child labour or deforestation through their certification. Indeed, it will be unfair to attribute to VSS the responsibility of these issues if their standard schemes do not intend to resolve them. By briefly inspecting their schemes, it can confirm that diminishing poverty, child labour or deforestation are part of their promises when applying their labels.

Then, an evidence-based systematic review will be performed to determine the label's outcomes in the market. This study will rely on different types of studies to elaborate a mix method, or in other words, a method based on quantitative but also qualitative data. This is essential due to the *sustainable* aspects of standards. Since VSS intends to improve some facets of the economy, the society, and the environment, it cannot be evaluated without defining qualitatively other possible influences that may disrupt their results. Also, the sorting of the available literature will follow a strict selection. An interesting selecting approach could come from the instruction set by Blackman and Rivera (2010). Their research explains how to properly implement a protocol to generate credible results when assessing the impact of certifications. In the past two decades, many studies trying assessing these impacts went through overly simplified counterfactual outcomes, which can create bias. The two researchers warn against these practices by explaining the reasons for their inconsistency and offer

methods that could be considered scientifically robust. Also, studies like Frondel and Schmidt (2005), Greenstone and Gayer (2007) or Ferraro (2009) are good additional approaches to get robust counterfactuals for assessing environmental impact policies. Thus, the studies most rely, at least, on these requirements to be selected. Of course, other analytical methodologies may be considered acceptable, and will be considered in this study if needed.

Therewith, all studies using counterfactuals presented below should be avoided:

- **Precertification approach**: using precertification outcome of certified entities as the counterfactual conditional. The implied presumption here is that the outcomes of any certified entities should have stayed equal to the outcome they got before the certification if they had not been certified. This analysis can be biased by factors unrelated to certification that can affect the outcomes during the study period. An example could be assessing the income evolution by comparing a pre-certification farm's income to the post-certification farm's income and after a specific time. Variables as market prices or weather conditions can, with ease, make a substantial impact to the results and, thus, bias the outcome. Regardless of whether the farm got certified or not.

- **Non-certified control group approach**: directly using the outcomes from non-certified entities as the counterfactual conditional. The implied presumption here is that the outcomes of certified entities should have stayed equal to the one of non-certified entities if they had not got certified. This analysis can be biased by precertification or current characteristics attributable to each entity. Every entity can have its own characteristics, as farms size, education level or specific soil conservation measure for example. All those characteristics can impact or influence the results and, thus, bias the outcome. An example could be assessing the income between a certified and a non-certified entity, without caring about the entities' characteristics. If the certified entity has a larger parcel of land than the non-certified entity, its income could be impacted positively by its ability to produce more raw materials, and not by the certification itself.

However, all studies using the following methods should be favoured:

- **Experimental approach:** using experimental or "randomised" design of certification project to simplify unbiased impact assessment. More precisely, this approach consists of selecting randomly entities from a group of qualified and interested candidates for the certification. The sample will constitute the control group and used as the counterfactual conditional. This approach is not commonly used since it requires building evaluation over a long-term period.

- **Matching approach**: using statistical matching technique, as the propensity score matching for example, to avoid confounding variables bias. More precisely, it consists of matching certified and non-certified entities with very similar, if not identical, observable characteristics that could affect the outcomes. The characteristics are varied and can encompass, for example, the farm size, the level of education or the soil quality. The non-certified matched sample will be used as the counterfactual conditional.

- **Instrumental variables approach**: using advantage of known correlation between certification and *instruments* characterising certified entities in order to demonstrate their causal inference. Thus, instruments that are controlled for selection bias do not affect outcomes except through the probability of certification. The method allows to identify and evaluate the causal relationship between variables. Nonetheless, credible instruments are hard to identify and the method is quite limited to the farmers decision to become certified.

Considering these approaches, this study can be seen as a partial extent of the work of Blackman and Rivera (2010). In any case, all papers analysed here should be ex-post empirical studies that focus on the cocoa market. They all must be published in the last decade (2010-2020), in order to get the most up to date data. Geographical factors were not, automatically, a criterion for the selection. Nevertheless, only few studies were in compliance with the *requirements*, and most of them depict exclusively the situation in Côte d'Ivoire or Ghana.

Table 2 – Studies distribution per eco-labels

Eco-labels (name)	Articles (nb)	Author(s), (year)
Fairtrade	7	COSA, (2013)
		Rusman et al., (2018)
		Sellare et al., (2020)
		Oya, Schaefera and Skalidou (2018)
		Foundjem-Tita et al., (2016)
		Foundjem-Tita et al., (2017)
		KPMG & GBCC, (2011)
Rainforest Alliance	5	COSA, (2013)
		Fenger et al. (2017)
		Oya, Schaefera and Skalidou (2018)
		KPMG & GBCC, (2011)
		Bennett et al., (2012)
UTZ	7	COSA, (2013)
		Oya, Schaefera and Skalidou (2018)
		Ingram et al., (2018)
		Waarts et al. (2015)
		Ingram et al. (2017)
		KPMG & GBCC, (2011)
		van der Ven, Rothacker and Cashore (2018)
Organic (IFOAM)	0	-

Table 3 – Studies distribution per country

Country	Article (nb)	Author(s), (year)
Côte d'Ivoire	9	COSA, (2013)
		Rusman et al., (2018)
		Sellare et al., (2020)
		Oya, Schaefera and Skalidou (2018)
		Ingram et al., (2018)
		Foundjem-Tita et al., (2016)
		Ingram et al. (2017)
		KPMG & GBCC, (2011)
		Bennett et al., (2012)
Ghana	6	COSA, (2013)
		Oya, Schaefera and Skalidou (2018)
		Ingram et al., (2018)
		Waarts (2015)
		KPMG & GBCC, (2011)
		Fenger et al. (2017)

As said already earlier, since those two countries represent more than 60% of the global production (80% for West Africa - ICCO, 2020), this is not interfering with the main target of this study. Yet, keep in mind that the presented results will be mostly relevant for those countries, and not for all the cocoa producer countries. All the literature has been found through digital databases, such as Google, Google Scholars, ScienceDirect or Scopus and through the eco-labels websites or their affiliates. They could also be found through the reference list of some studies. Key words as *ecolabels, cocoa market, impact assessment, certification impact* and any other relevant words combination have been used to identify all these studies. To get a full scope of the studies used in this work that respect a good methodological structure, please refer to the appendix n°1.

Finally, this work will be divided in two chapters along with sub-chapters: one to confirm the theoretical link between certification and the SDGs, and the second one will depict the impact founded for all label in each most disruptive market's issues (poverty, child labour and deforestation). For understanding and equality purposes, the results will be divided by eco-labels. Therefore, the results could demonstrate a difference of impact between the certification schemes. Of course, the aim of this work is not to increase the value or depreciate one of the existing certifications. But in order to depict all the relevant data in the most impartial manner, this method cannot be avoided.

3.2 Research limitation

Several important issues were faced during the development of this work. First and foremost, this thesis was written under the particular conditions caused by the COVID-19 pandemic. Unfortunately, this situation has made information gathering more difficult. In general, all data that could have been received through research institutions or key market players could not be collected. Interviews had to be cancelled and some exchange of emails stopped, without clear reason, during the pandemic spike. Due to the deadline imposed, waiting for an improvement to this situation was impossible. Therefore, it was judged relevant to focus only on the data collected through possible means. Secondly, the major issue concerning the cocoa market is its limited amount of viable data. The work of DeFries et al (2017) demonstrates quite perfectly this low proportion of available studies evaluating the certification impact correctly. Regarding their criteria - which differ partially from what Blackman and Rivera (2010) suggest but are still relevant - only 3 papers out of a total of 230 were suitable for a deeper analysis for cocoa. Furthermore, even these three papers were considered with a risk of bias and thus, not included in their final analysis. The same struggle has been faced during the elaboration of this thesis. A small number of worthwhile studies have been found (appendix n°1). Only 10 *suitable* studies have been used to describe the certification impact. Also, no studies assessing the label impact against valuable counterfactuals have been found for the Organic certification, which limits the overall analysis for the selected region. While this may be considered sufficient in view of the rigorous selection that has been applied, it is strongly recommended that the number of viable studies available for this market increase drastically. Then, the multiplicity of methodologies used in the studies found made their *approval* difficult. Indeed, even if all studies have been approved by a robust selection, certain methodological details may be subject to debate or even criticism. Thus, these details will be explained in the appropriate chapter for each sustainable market issue aforementioned, to disclose possible bias. Finally, some research is based on surveys to assess the current situation. Even if a survey is a scientifically viable methodology, it is more often subject to bias, especially if answers uncertainty occurs or the implementation of the survey has not met certain essential prerequisites (p.39, Grove et al., 2011). Therefore, it is important to keep this peculiarity in mind when reading the results. In any case, all these aspects have been meticulously analysed in order to enhance this study as much as possible.

4. Findings

4.1 Eco-labels and SDGs: description and shared strategy

4.1.1 SDGs' targets and official indicators

To evaluate some progress in the targets established by the SDGs, it is essential to look for improvement into the relevant IAEG-SDGs indicators. However, a theoretical link between VSS and those indicators is needed first, in order to not *over-interpret* the goals set by certification bodies. Regarding the SDGs indicators all relevant information, as the goals and indicators, can be found in the UN Global indicator framework and within the UN stats website through their Metadata repository. There are three (3) main issues when referring to the cocoa market: poverty, child labour and deforestation. The IAEG-SDGs have few specific indicators relating to these issues.

Concerning the poverty aspect, all important indicators are described within the goal n°1 and its sub-goals (UN Stat, 2020). Yet, since the research is conducted from a market perspective, the focus can be only made through the cocoa planters' poverty level. A lot of indicators in the first official goal relate to some government policies, therefore they are considered off topic. Under those circumstances, there are two interesting sub-goals: the 1.1 that aim to eradicate extreme poverty[6] around the world and the 1.2, who try to reduce by half at least the proportion of people living in poverty, according to national definitions. Therefore, according to these sub-goals' indicators (1.1.1; 1.2.1), *cocoa standards* should increase the proportion of planters' population above the international and national poverty lines. Or at worse, ensure that *their* planters usually receive a higher net income than the non-certified one.

In the case of child labour, there are two precise sub-goals relevant to the cocoa market (ILO, 2020). Firstly, the 8.7 who aim, among other, to end all forms of child labour by 2025. For this, standards must help diminishing the proportion and number of children, aged between 5 to 17 years old, engaged in some sort of child labour (8.7.1). Secondly, the 16.2 who wants to end any abuse, exploitation, or trafficking against humans, especially children. There, standards should help reduce the number of victims, especially children, in human trafficking in cocoa exploitation fields (16.2.2).

Finally, the world deforestation issue is explained by the 15th goal, more precisely through the 15.2 sub-goal. It aims "By 2020, [to] promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and

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[6] extreme poverty means living with less than $1.25 per day on average. The amount can change regarding the purchasing power parity rate of the country.

substantially increase afforestation and reforestation globally". As noticed, the sub-goal does not focus only on deforestation but encompasses all ideas related to forest preservation and expansion. The general indicator for this sub-goal assesses the progress made towards sustainable forest management (15.2.1) which is not appropriate for this research. However, in this particular case, the IAEG-SDGs extend the progress assessment by establishing some sub-indicators. Among all five sub-indicators, the first one seems the most pertinent. It assesses the annual net change rate of forest area, which can be an interesting indicator for deforestation. The other sub-indicators focus on the proportion of protected area and forest management, which is not totally in line with the topic but still can be useful. It can be interesting to evaluate if some VSS provide a better protection to the protected area or help for reforestation. Even if this aspect is not considered as an official indicator, it respects the overall aim of the SDGs' sub-goal (FAO, 2013).

4.1.2 Standards types and objectives

Since the biggest part of cocoa sustainable production is carried by well-known eco-labels (cf. chapter 2.2), it seems appropriate to focus the research on those certifications. Thus, all *type 1* standard results will be prioritized when looking for data. There are few other programs that may be categorised *type 2* and *3* existing in this market. For example, there are two major effort made to *eradicate* child labour or deforestation in the cocoa production. The first one is the Harkin-Engel protocol, a voluntary public-private agreement who try to get rid of the worst form of child labour (CMA, 2001). The second one is the Cocoa and forest Initiative, a commitment between the government of Côte d'Ivoire and Ghana with 35 leading chocolate companies in order to end deforestation and restore forest areas (World Cocoa Foundation, 2020). Both try to implement private and public procurement in the market to solve their related issues. However, they do not entirely fit the definition of standards type 2 or 3 and their procurements are complex and make it quite hard to find data that rely only on these programs. Furthermore, some critics report the sluggish development and the quasi-non-existent results from those initiatives since their approval (Campbell and Athreya, 2008; Mighty Earth, 2018). In that case, it is better to concentrate the attention into relevant data, as those who focus on the most consistent eco-labels used in the market.

All of this aside, the table below present the main labels with a brief presentation of their system and their code of conduct regarding poverty, child labour and deforestation. The information from table 4 demonstrates that all standards have implemented specific norms against the significant issues aforesaid. Even if there is the possibility to find few non *mandatory* norms in their schemes, the *presented* requirements are unavoidable for organisation or producer to get the certification.

Table 4 - Certifications and code of conduct

	FairTrade International	**RainForest Alliance**	**UTZ**	**Organic (IFOAM)**
Certification systems	FairTrade include two (2) types of standards, namely "general standards" and "specific standards". The general standards define all characteristics link to all producer and organisation with paid workers. Those standards gather 4 sections: **i.** Social development **ii.** Socio-economic development **iii.** Environmental development **iv.** Work conditions Specific standards define all economic, social, and environmental aspects for all types of products. All candidates for the certification must respect the requirements defined by those standards. They must: follow the general requirement for producer organisation, the minimum requirements needed to get certified and continuously assess their performance through time.	The Rainforest Alliance is built around tree group of standards: **i.** Standards for sustainable agriculture **ii.** Group standards **iii.** Standards for industrial traceability chain The system work with the compliance of partial or total criteria included in the principles. Among the criteria, some are essentials and must be respected in all cases, otherwise they are eliminatory. All criteria are constituted with indicators that allow assessment. All candidates are qualified for the standards only if 50% of criteria in each principle and 80% of the overall applicable criteria are respected.	UTZ standards are based on the code of conduct which include all control points divided in few chapters. The control points are the criteria from which all producer organisation and agriculture farmers would be evaluate. The conformity will be reach if for a certain chapter, the organisation respected all mandatory control points and an additional number of non-mandatory points are followed. It is not allowed to compensate a score obtained in a chapter with one received in another one.	Organic agriculture is based on four principles according to IFOAM: **i.** Health **ii.** Ecology **iii.** Fairness **iv.** Care These principles follow the general convention, recommendation, rules and derogations of IFOAM. All the general principles are the objectives required for the production and preparation of organic products. The recommendations are the useful suggestions, which are not required for any candidacy. The rules are the minimum requirements to become certified. And the derogations are the possible exceptions for the rules. However, they cannot be used directly by the certification bodies or the auditors, they can only develop specifications that are considered higher than those stipulated by the exigences of the IFOAM.
Conduct against poverty	The member should set the salary level according to CBA regulation (if they are applied) or at regional average wages or at official minimum wages for similar occupation. For work based on production, quotas and piecework, the member must pay the proportionate	All workers receive not less than minimum legal salary or what collective negotiation have decided. In any case, the highest wage must be retained. All work based on production, quotas and piecework allow all worker to gain at least a minimum wage equivalent to a work week of 48 hours.	In the case of a collective bargaining agreement, workers receive at least the agreed upon wages and/or in-kind benefits. In case such agreement does not exist, the total pay, wages plus in-kind benefits, must follow the principle of the local living wage. If the pay is below	All operators pay their workers (wage and in-kind benefits) at the legal minimum requirement of the operation' jurisdiction, or in the absence of this minimum, the sectorial benchmark.

	minimum wage or the relevant industry average. All information about this pay rate must be available for workers or worker organisation. The method of calculation for piecework wages must be transparent and accessible. Production, quotas, and piecework employment cannot be used to avoid time-bound contracts.	When the pay rate does not attain this requirement, the salary rate must be valorised to reach the minimum salary. Payment in kind cannot exceed 30% of this minimum salary. If all salary is negotiated voluntarily between employers and employees, those wages apply for all workers concerned by the negotiation. Formation demanded by the administration must occur during work hours and compensate entirely.	the living wage, members must take action to increase it within a reasonable period of time. At all moment, workers shall receive the applicable minimum wage.	
Conduct against child labour	All members cannot employ children below the age of 15 or under the age defined by the local law. The children members below 15 years old are allowed to help under strict conditions. **i.** Children can only work after school or during holidays. **ii.** The work is appropriate for their age and physical condition **iii.** They do not work long hours and/or under hazardous or exploitative conditions. **iv.** Their parents or guardians supervise and guide them. All members shall not submit in any condition, workers under 18 years old to the worst forms of child labour. Therefore, all work likely to jeopardize their health, safety, morals, or school attendance.	The worst forms of child labour are forbidden, in particular: **i.** Work harmful for children **ii.** All work carry out by a child under 15 years old, except for task generally made locally et traditionally by children to sustain family crop. **iii.** All child labour during school hours **iv.** All work with more than 8 hours per day and more than 48 hours per week **v.** All work that cannot allow a young worker a successive period of 12 hours of rest and a day off after 6 days of work. **vi.** All forms of forced labour **vii.** All forms of selling and child trafficking. Which encompass, the use or recruitment of children for pornographic content, prostitutions, or other illicit activities.	Children under 18 years old do not conduct any work that may harm their physical, mental, or moral well-being. They cannot carry heavy loads or work in dangerous locations, in unhealthy situation, at night or with hazardous substances or equipment. They are not exposed to any form of abuse, there is no evidence of trafficking or forced labour. Children under 15 years old could not be engaged to work. In case the national laws set the minimum work age at 14 years, this age applies. Children in the age 13-14 years old can perform light work, in case they are not harmful to their health and development, or do not interfere with their school time or training. It must also be in the supervision of an adult and does not exceed 14 hours a week. Family children can participate in family farming activities, if that consist of light, age-appropriate duties which give them the opportunity to develop skills, that are	Operators must avoid any use of child labour. Children are allowed to experience work on their family's farm or business, or even neighbouring farm; only if such work is not dangerous to their health and safety, or jeopardise the child's educational, moral, social, physical, mental or spiritual development. All children must be supervised by an adult. All production that violates human rights and social justice requirements cannot be declared organic. This encompass the use of forced or involuntary labour.

| **Conduct against deforestation** | The members must avoid negative impacts on protected areas and in areas with high conservation value within or outside the production zone. Areas used or converted to production of Fairtrade crop comply with national legislation concerning agricultural land use.

All members must not cause deforestation or not destroy vegetation in carbon storage ecosystems or protected areas. They also need procedure to prevent any of these issues.

Finally, members must take measures to protect and enhance biodiversity. | High conservation areas must not be destroyed since the 1st November 2005. All exploitation should conserve all-natural ecosystems and should have not destroyed any forest and natural ecosystem during the previous five years before the application to the Rainforest certification - or after the 1st January 2014, according to the latest date.

All production activities do not damage any protected areas. The endangered or protected species are not chased from the crop production or killed. Usually, animals are not chased from the production areas, except in few exceptional cases:

i. Producer can chase out non endangered species for non-commercial purposes.
ii. Pest and vertebrate can only be hunt through the "Pest Integrated management" (GIN), and only in last resort. Also fight against rodents' respect Rainforest alliance requirements concerning the risk management of rodents' deaths.
iii. Explosive or toxic substances are never use for hunting, fishing, or the fight against rodents. | not harmful to their health and development and do not interfere with their schooling. All work must be supervised by an adult.

No deforestation or degradation of primary forest occurs or has occurred since 2008. No deforestation or derogation of secondary forest occurs unless

i. Legal land title or landowner permission is available
ii. Government permits are available (if required)
iii. There is a report produced by an environmental expert confirming that the appropriate clearing techniques are used, and that some reforestation compensation with equal ecological value is planned and done.

No production or processing occurs in or within 2 km of protected areas unless a management plan of the area is implemented and allows it. All threatened and endangered species in the production area are identified and protected. | Clearing or destruction of High conservation value areas (HCVA) is prohibited. Farming areas installed on land that has been obtained by clearing of HCVA in the previous 5 years shall not be considered compliant with the standard. |

Sources: Rainforest Alliance, July 2017; UTZ, January 2016; FairTrade, March 2014, February 2016, April 2017; IFOAM, 2005, October 2018; ISEAL, December 2014; GBCC, August 2012; KPMG, October 2012; Lemeilleur, 2015.

Also, there is no drastic perspective change between these requirements and the UN goals, they follow in general the same objectives regarding those issues. Therefore, eco-labels should bring some positive and quantifiable impact on SDGs, assuming their certification systems work. In any case, this comparison recalls the importance of not focusing only on the indicators without understanding their concepts and definition. Concerning standards requirements, they seem to embed a more realistic view of the food-processing market situation. In fact, most of the standards schemes, for example, make a clear distinction between forced child labour and children working under family supervision. Under these circumstances, affirming the standards objectives differ partially from what the SDGs are aiming for could be plausible. Currently, all labels allow children under 17 years old to work (under strict conditions) what is not in harmony, at first sight, with the related SDGs indicators (see indicator 8.7.1). Yet, this bias occurs only if the indicator is grasped without its clear definition. Indeed, the goal 8.7 have been implemented considering those market distinctive characteristics (see UN, Metadata, 2019) and the definition of child labour made by the ILO (ILO, 2004, 2020) support the labels definition. Thus, the requirements are not obstructing the SDGs, it is the opposite. This statement is equivalent for every case, there is no point where standards and SDGs objectives do not match significantly.

Then, some interesting aspects are noticeable concerning additional conducts against deforestation or current evolution from the standards. Indeed, for the former, RA and UTZ also promote the protection of endangered species by prohibiting the hunt or the destruction of their natural habitat. These requirements widen the research spectrum for deforestation since relatable indicators, as species loss, can be used to demonstrate the standards effectiveness. Also, the requirement sometimes shades some difference with the common term of deforestation, but this particularity will be explained during the analysis. For the latter, an important change is currently happening between RA and UTZ. Currently, the two standards are merging to create a brand-new certification. They will retain the name *Rainforest*, but a set of new requirements will be established to improve their sustainable agriculture standard and chain of custody certification. (RA, 2020). In all cases, since these norms will become mandatory in 2020-2021, this situation will not affect the existing results and, thus, the conclusion of this thesis. Finally, it is noteworthy that a direct and perfect comparison between the impact results of VSS and the SDGs indicators could be quite impossible to make during the analysis part. Indeed, it can be difficult to find studies assessing eco-labels impacts applying the exact same indicators used in the SDGs. Thus, the following part of this work will assess the improvement made to the SDGs through the interpretation of available data.

4.2 Certification impact within the cocoa market

4.2.1 Poverty and minimum income

The most efficient way to decrease poverty in the market is through the growers' income. By positively increasing their net income, standards could reduce the poverty level. There are two conceivable approaches to improve their profit. Directly, by increasing the price received when selling the product, or through a system of Premium given by certification bodies; and indirectly, through the improvement of a few factors that can influence the net income. For example, in the study of Ingram, V. et al. (2018), they affirm with a strong statistical significance that total farm size and share of land devoted to cocoa can impact positively the income, when household size impacts it negatively. Also, other influences like productivity (cocoa quantity produced by hectare) could bring logically some improvement to the farmers' income current situation. In that case, all the factors related to direct but also indirect influence must be considered in order to evaluate more broadly the certification impact. Before anything else, it is noteworthy that most of the studies develop their own net income calculation, so the results disparity between the studies displayed below could be explained partially by these calculations.

As already explained, when it comes to studies assessing the impact of certification against poverty, the first major issue encountered is the low number of valuable data. This reminds the importance of obtaining a wider number of studies with a valuable methodology for the cocoa market. In any case, few studies bring interesting results that can be exploited. First of all, it can be interesting to know if ecolabels, without any comparison, resolve the poverty situation among *their* farmers. A Fairtrade 2018 report, in collaboration with True Price, tried to gain more information about the current incomes of Fairtrade cocoa farmers in Côte d'Ivoire. They collect information of 3'200 Fairtrade smallholders from 23 cooperatives spread all over the country. Unfortunately, their findings depict a non-gratifying situation. On average, a farmer household has an income of $2'707 per year. The median appears to be a bit lower than the average, with an income of $1'919 per year. According to their estimation, this represents respectively only 37% and 26% of a living income in Côte d'Ivoire ($7'318 per year for a median household of 8). The situation is even worse when referring to their household income distribution (fig. 2). The table shows that 71% of *their* farmers are currently below the national poverty line, and 52% is even below the extreme poverty line. All those findings show the issue is far from being resolved in certified farmers.

Figure 2 – Household income distribution and poverty statue (USD/year), in Côte d'Ivoire
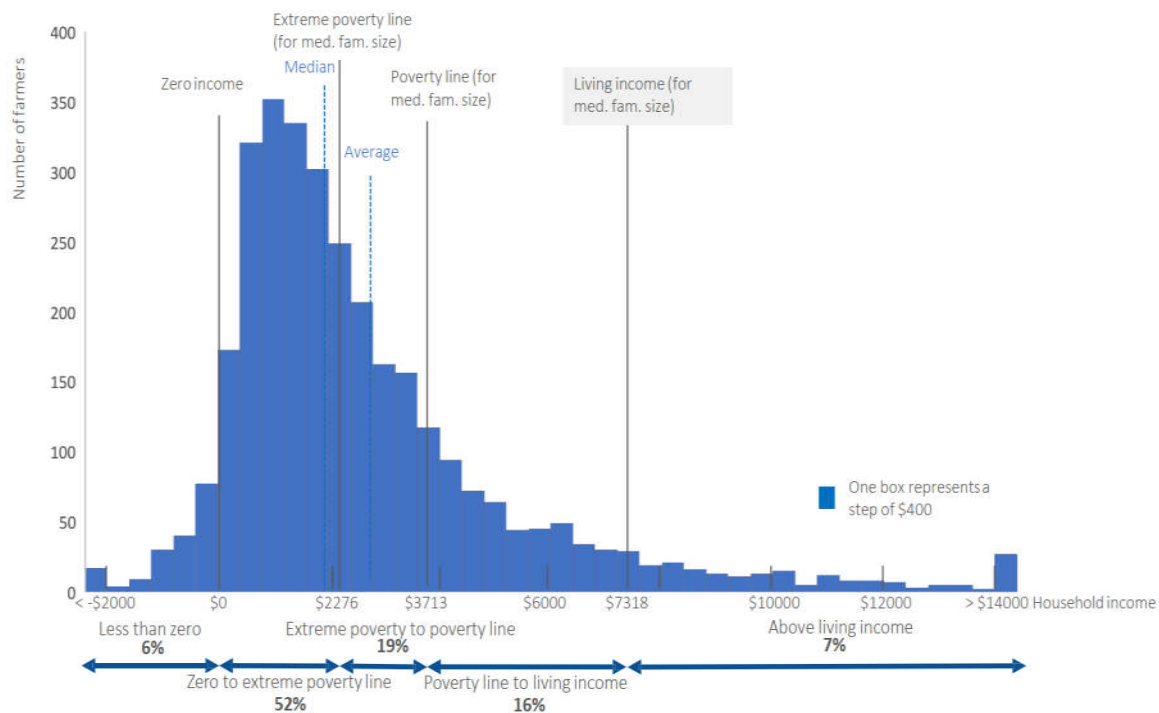
Source: Fairtrade and True price (2018)

Of course, certifications are not exempt of socio-economic variables that can impact the net income. The report demonstrates that the household size is a key factor in the number of farmers below the extreme poverty line. The smaller households (less than 8 people in the family) appear to be less into extreme poverty than larger households (8 or more). It confirms the research (Ingram, V. et al., 2018) seen earlier in the chapter. Furthermore, even if their additional program (as Premiums) seems to provide a valuable help, they also explain that obtaining a consequent number of farmers above this line is challenging. Indeed, getting more than 80% of farmers above the extreme poverty line requires that the current cocoa price double. In any case, the report is a good starting point but still does not fully nullify the impact of eco-labels. It clears the fact that ecolabels do not automatically resolve the poverty issue, but maybe their schemes allow *their* farmers to have better performance or income than the non-certified farmers. Under such conditions, it would be still clever to support the growth of VSS in order to enhance the current market state. Nevertheless, according to the studies, the results are quite mixed, sometimes contradictory and depend highly on the certification.

By focusing on Fairtrade certification for example, the few available studies depict generally positive, sometimes neutral results. To begin with, Sellare et al. (2020) found statistically significant differences between similar Fairtrade certified farmers and non-certified farmers in Côte d'Ivoire. They focus on three outcome variables which are (1) cocoa yields (kg/ha - *productivity*), (2) cocoa price and (3) consumption expenditure. For all three

of them, it seems farmers certified Fairtrade are doing better than their non-certified counterparts. In more detail, for Fairtrade farmers the cocoa yields were higher of 13%, they receive a higher price, usually higher by 4% and they have a higher consumption expenditure of 20%, which demonstrates a better purchasing power, thus a better economic situation for those producers. This is not a drastic increase of their net income but still can be considered as a good improvement.

Table 5 – Descriptive statistics for outcome variable and poverty incidence by certification status

Economic variables	(1) Full Sample	(2) Certified	(3) Non-certified	(4) Mean Difference
Cocoa yield (kg/ha)	540.31 (250.36)	573.58 (265.70)	507.03 (229.76)	66.55***
Cocoa price (CFA/kg)	717.34 (39.69)	731.04 (46.13)	703.20 (24.82)	27.84***
Consumption expenditure (CFA/capita)	1'074.64 (901.43)	1'173.04 (974.47)	976.24 (812.03)	196.80***
Below poverty line (1/0)	0.45 (0.50)	0.37 (0.48)	0.52 (0.50)	-0.15***
Observations	500	250	250	500

Source: Sellare et al. (2020); Note: Mean values are shown with standard deviations in parentheses.
**$p < 0.05$; ***$p < 0.01$

Furthermore, researchers decide to push on their analysis and add some of the cooperative *characteristics* into their regression models, as age of co-op, education of co-op leaders or services provided by the co-op for example. The main purpose is to avoid other variables that could impact the three outcomes aforesaid. They demonstrate that the consumption expenditures were not very significant in that case ($p < 0.1$), but surprisingly for cocoa yields and price, certification performs even better *without* the cooperative characteristics. This hint, according to the writers, that "farmers in cooperatives with less favourable initial conditions (physical capital, leadership education, service providers, etc.) actually benefit more from certification than farmers in cooperatives with more favourable initial conditions". This is an interesting result since the opposite outcome could have been expected. Finally, and more importantly, they found a positive difference about the poverty level between certified and non-certified producers. It seems Fairtrade's farmers are much more likely to be above the poverty line (37% of certified farmers below the poverty line against 52% for non-certified).

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25.01.2021

Table 6 – Effect of Fairtrade certification on outcome variables

Economic variables	Not controlling for Cooperative characteristics		Controlling for Cooperative characteristics	
	(1) OLS	(2) IV	(3) OLS	(4) IV
Cocoa yield (kg/ha)	63.32**	69.60	111.75***	106.61**
	(27.20)	(35.27)	(37.27)	(49.66)
Cocoa price (CFA/kg)	26.52***	29.27***	22.11***	25.18***
	(3.86)	(4.23)	(3.38)	(3.69)
Per capita consumption expenditure (log)	0.14*	0.17*	0.15*	0.13
	(0.08)	(0.09)	(0.08)	(0.10)
Household controls included	Yes	Yes	Yes	Yes
Cooperative controls included	No	No	Yes	Yes

Source: Sellare et al. (2020). Note: Coefficient estimates for the effect of Fairtrade certification (1/0) are shown with clustered robust errors in parentheses. Separate models (OLS and IV) were estimated for each of the three outcome variables. Yield and per capita consumption expenditure models were estimated with 500 observations; price models were estimated with 490 observations. Full model results are available in source appendix.

$*p < 0.1$; $**p < 0.05$; $***p < 0.01$

Other studies from ICRAF and Biodiversity International share some additional and interesting results about this scheme. They found similar findings to the Sellar et al. (2020) study for Côte d'Ivoire (Foundjem-Tita et al., 2017) but did not find supportive results in Ghana (Foundjem-Tita et al., 2016). For the 2017 study, they affirm that the production per tonnes and the cocoa income are significantly higher for certified producers. In average, Fairtrade members tend to produce 0.67 tonnes more than the non-members and earn a higher income of 35.8% (table 7). However, the study separated from their assessment some variables that could explain this disparity. They demonstrate significant differences between certified and non-certified producers regarding their farm characteristics, such as the average plot size, the number of plots or the total farm size. In a nutshell, certified farmers get wider cropland to produce cocoa beans (table 8) which can influence the previous outcomes. Then, the age of certified farmers' trees is drastically better: 55.7% of their plantations were considered in the *prime age* of production (between 10 to 29 years) for only 46.1% for non-members. Thus, the benefit of Fairtrade certification cannot be assured here but, speculatively, some of their programs, such as crop training, could have led to the farm management enhancement. This assumption was partially supported by cooperative leaders, who think that the increase in production comes from two components: (1) the gain in membership during the period tested and (2) the endorsement of sustainable agricultural practices (ibid). In all cases, Fairtrade seems, again, providing some positive economical return for producers in the country.

Yet, in contrast with the Côte d'Ivoire, the study in Ghana did not find any supportive evidence to Fairtrade schemes. Certified farmers tend to have a higher level of education and more productive trees compared to their counterparts. But, even under these circumstances,

there are no robust statistical differences between members income (2951 USD in 2012/2013) and non-members income (2847 USD in 2012/2013) (p=0.422). This can be explained

Table 7 – Productivity and cocoa revenues segregated by cooperatives membership, 2012/2013 production season

Economic variables	(1) Full Sample	(2) Certified	(3) Non-certified	(4) Mean Difference
Production in tonnes	2.03	2.17	1.44	0.73***
	(2.04)	(2.1)	(1.67)	
Observations	427	98	525	
Cocoa farm yields tonnes/ha	0.4326	0.4469	0.3704	0.0765*
	(0.5079)	(0.5305)	(0.5243)	
Observations	425	98	523	
Cocoa income (USD/year)	3'160	3'292	2424	868**
	(3'185)	(3'208)	(2958)	
Observations	424	76	500	
Proportion of income from cocoa (%)	73.64	73.75	73.12	0.63
	(18.04)	(18.23)	(17.11)	
Observation	432	85	517	

Source: Foundjem-Tita et al., 2017. Note: Mean values are shown with standard deviations in parentheses
*$p < 0.1$; **$p < 0.05$; ***$p < 0.01$

Table 8 – Total farm size and average plot size (ha) segregated by cooperative membership.

Economic variables	(1) Full Sample	(2) Certified	(3) Non-certified	(4) Mean difference
Total farm size per farmer in ha	6.16	6.38	5.25	1.13**
	(5.2)	(5.09)	(5.59)	
Min-Max	0.5 - 38	0.96 - 37	0.5 - 38	
Observations	537	434	103	
Average plot size per farmer in ha	3.54	3.65	3.03	0.62**
	(2.66)	(2.72)	(2.32)	
Min-Max	0.38 – 18.5	0.38 – 18.5	0.5 - 12	
Observations	534	434	100	
Number of farms plots	1.9	1.95	1.68	0.27**
	(1.07)	(1.09)	(0.94)	
Min-Max	1 - 7	1- 7	1 - 7	
Observations	534	434	100	

Source: Foundjem-Tita et al., 2017. Note: Mean values are shown with standard deviations in parentheses.
*$p < 0.1$; **$p < 0.05$; ***$p < 0.01$

partially due to the cocoa production system in the country. According to the government regulations, the overall Ghanaian production, including certified beans, must go through the COCOBOD channel. COCOBOD became the official and only farmers representative for exportation and has the authority on producer price or licenses (ibid). One of the main purposes of this institution is to regulate the internal cocoa market to add value in export and local consumptions. Therefore, it can influence consequently the results obtained by certification, or even *cancel* them, since the institution's aims tally with some of Fairtrade

objectives. Of course, since it is not proven, this aspect may not be very influenceable, and the *poor* outcomes could also come from the Fairtrade program inefficiency. The study (ibid) did not bring enough explanation and more research is needed to get a better understanding of these results. Up to this point, even if the results are far from being perfect, Fairtrade seems to partially improve farmers' life, especially in Côte d'Ivoire. Nonetheless, few loopholes were presented and the study in Ghana made the difference with non-certified farmers more precarious.

Furthermore, other studies based on another certification scheme provide additional methodology which could *disfavour* the above-mentioned studies for Fairtrade. Indeed, the previous studies did not evaluate the impact through time. This may disrupt the positive results if the situation worsens for certified farmers after a couple of years. To truly understand this *over-time* hypothesis, the studies focused on UTZ certification provide some good examples. To start with, Ingram et al. (2018) display some surprising evidence about this label. They assess its effectiveness in Côte d'Ivoire and Ghana through two time periods, 2013 and 2017. In both countries, the certification impacts were almost non-existent, sometimes negative. In Ghana, non-certified planters seem to perform better over time than certified planters. Indeed, there are only two statistically valuable variables here: the profit per hectare and the total cocoa net income. For both cases, the progression between 2013 to 2017 were slightly better for non-certified farmers. On one hand, they increased their profit per hectare by almost GHS 619 in 4 years, against GHS 318 for UTZ farmers. On the other hand, their total cocoa net income inflated by 75% over time, where UTZ farmers inflated only by 33% (table 9). Furthermore, non-certified farmers had a better final situation in 2017. Their profit per hectare and their total cocoa net income were higher than the farmers certified UTZ. In Côte d'Ivoire, farmers certified UTZ had a higher productivity per hectare compared to non-UTZ farmers. Nonetheless, their average production was partially the same, and even diminished (-20 kg/ha), between 2013 and 2017. Where non-certified farmers' productivity increased greatly, from an average of 256 kg/hectare in 2013 to 411 kg/hectare in 2017. Furthermore, the UTZ farmers had again a slower increase in their profit per hectare than their non-certified counterparts (+40% for UTZ, +160% for non-UTZ; table 9). By the way, other outcomes are favourable for the certification. For example, UTZ farmers' total cocoa gross income remains higher than non-certified farmers in both years. However, all those results are not statistically significant at level 0.01 or even level 0.05, therefore, no strong affirmation can come through these points.

Thus, the overall conclusion in the two countries is not very supportive with the label and present properly over *time* problematic. However, it is important to *shade* those results since the study also provides some additional information. Firstly, the total net income

indicator in Ghana was not robust against the propensity score matching[7] which makes it not valuable at the end.

Table 9 – Productivity and profit per hectare, and income segregated by UTZ and non-UTZ members

| Economic variables | | Certified | | Non-certified | | Effect equation | Robust | Modalities |
		Baseline t = 0	Endline t = 1	Baseline t = 0	Endline t = 1			
Ghana	Productivity/ha	282.5	311.2	262.5	32.2	-47	Yes	No effects found
	Profit/ha	956.5	1274	822.3	1441	-355**	Yes	No effects found
	Total cocoa net income	3826	5094	3289	5765	-1419**	No	No effects found
Côte d'Ivoire	Productivity/ha	520	500	256	411	-179***	Yes	Higher for group 4
	Profit/ha	377'238	527'857	160'907	425'113	-116'515**	Yes	No effects found
	Total cocoa gross income	1'692'480	2'575'645	747'808	1'767'034	-128'710	Yes	No effects found

Source: Ingram et al. (2018). Note: Results are robust when all 4 models define by the source show similar results in terms of sign and significance. For full table, refers to appendix n°2. Currency: Ghana = GHS; Côte d'Ivoire = XOF

Secondly, in Côte d'Ivoire, the overtime improvements were significantly better for UTZ farmers receiving the "most complete packages of services" than any other groups. And finally, the study managed to attribute some differences in cocoa income between the certified and the non-certified group, with the fact that non-certified farmers also had access to farm inputs, services, or training. Still, some of those results are valuable and not in favour of this label. The same researchers group provides additional studies in collaboration with Wageningen Research facilities to share more information. More data from the situation in Ghana between 2011 to 2014 (Waarts et al., 2015) and Côte d'Ivoire between 2013 and 2017 (Ingram et al., 2017) are available and, obviously, have the same outcomes. In the former study, they did not find any difference between UTZ certified and non-certified farmers concerning their profitability per hectare and per kilogram, their income per household member, the total household income, or their overall productivity. However, they present the same evidence regarding non-certified farmers getting access to some inputs, services, or training. Also, the Premium received by certified farmers were not included into the income calculation, since the researchers could not find the right amount of cocoa sold through the Premium system. Still, they estimate the gain at +2% of income on average, which could be a positive influence for UTZ's farmers income. In the latter study (Côte d'Ivoire), here again, the productivity per hectare was higher for UTZ certification in 2013 and 2017. Yet, the average cocoa yields of UTZ farmers stay equal, even diminish for certified farmers (527kg/ha to 497kg/ha) during the period, when non-UTZ farmers increase their productivity drastically

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[7] Propensity score matching is a statistical method based on matching. It allows an estimation of the effect of a treatment by accounting for the covariates that predict receiving the treatment.

(259kg/ha to 402kg/ha). Regarding the net income, no statistically significant difference was found between UTZ and non UTZ farmers. But UTZ members had, on average, a higher net income per hectare in 2017. Also, the average household members have a net income of $1.25 per day, without disparity between UTZ members and non-members. Since the World Bank set extreme poverty at $1.90 per day in 2015, both groups are considered below the poverty line. Nonetheless, the study also confirms, as seen in the Ingram et al. (2017) research, that this net income per household member was higher in 2017 for farmers who received the complete package services from UTZ. It seems, according to the study, that farmers receiving a partial package from the certification spend more money on expenses than farmers receiving the complete package or than non-member farmers. This could explain why UTZ label seems performing so poorly on an average scale. Maybe ensuring the complete package to any new member could bring real positive improvement. More research is needed to confirm this assumption.

Despite the limited number of studies available assessing the impact of RA (Bennett et al., 2012; Fenger et al., 2016) the label appears to be effective to improve the financial situation of farmers. In the study of Bennett, Francesconi, Giovannucci and Daitchman (2012), the data reveals supportive results for the certification on considerable economic indicators, such as yield (kg/ha), net income, revenue per hectare or even perception of economic circumstances, in Côte d'Ivoire. (table 10) With similar farm characteristics, certified farmers produced (in 2011, in average) 576 kg/ha when non-certified farmers only produced 334 kg/ha. Moreover, they obtain a revenue 70% higher than their non-certified counterpart. It appears that these two factors have greatly helped certified farmers to obtain a better net income per hectare, reaching on average 403$/ha compared to the 113$/ha of the non-certified farmers. This is supported by the farmers perception of their economic circumstances. 67% of RA's members consider that their economic situation improved in 2011 compared to the previous year, when only 26% of non-member agree with that statement. However, the situation is a bit more nuanced when the two groups are compared over time. For yields productivity for example, although the quantity is still higher in 2009 and 2011 for the certified group, the evolution through time is more significant for the non-certified group. In fact, RA's farmers only increase their productivity by +6.7% in 3 years when conventional farmers improve it by +114%. The same evolution occurred with the revenue per hectare, certified farmers manage to increase it only by +38.7% when the opposite group manage to get a +201,8% during the same period. No apparent reason is given by the study, so more research is needed to understand this difference. In any case, the difference remains highly positive for the RA certification and Ivorian Farmers' situation seems improving through the label.

Table 10 – Productivity and revenue within the Rainforest Alliance certification

Economic variables	Certified		Non-certified	
	Baseline 2009	Endline 2011	Baseline 2009	Endline 2011
Yield (kg/ha)	539.64** (286.59)	576** (232)	155.39	334
Revenue/ha (USD/ha)	664.5** (393.6)	922** (388)	179.55	542
Net income (Kgs/ha)	*n/a*	403*	*n/a*	113

Source: Bennett et al. (2012). Note: Mean values are shown with standard deviations in parentheses. For full table, refers to appendix n°2

Concerning Ghana (Fenger et al., 2016) the results seem to demonstrate a wider positive support for this label. First of all, during the period 2007 to 2013, certified farmers have faced an increase in their yield and total production, while *regular* farmers only experienced a reduction in both variables. The former went from 256 kg/ha in 2007-2008 to 475 kg/ha in 2012-2013 and increased their total production by 64.3%. The laters went from 211 kg/ha to 169 kg/ha and decreased their total production by 5.2%. All of this without statistical difference of the farms' total area between certified and non-certified groups. However, according to the study, there is the possibility that some conventional farmers have overestimated the size of their land since it happens regularly when the data are collected only through a survey. In any case, since those variables are highly correlated with an increase in income, being RA certified can provide positive financial outcomes for farmers. It is even more noticeable with their perception of their financial situation evolution (fig. 3).

Figure 3 – Main topic of changes in the financial capital mentioned by the farmers (2007/2008 – 2012/2013)
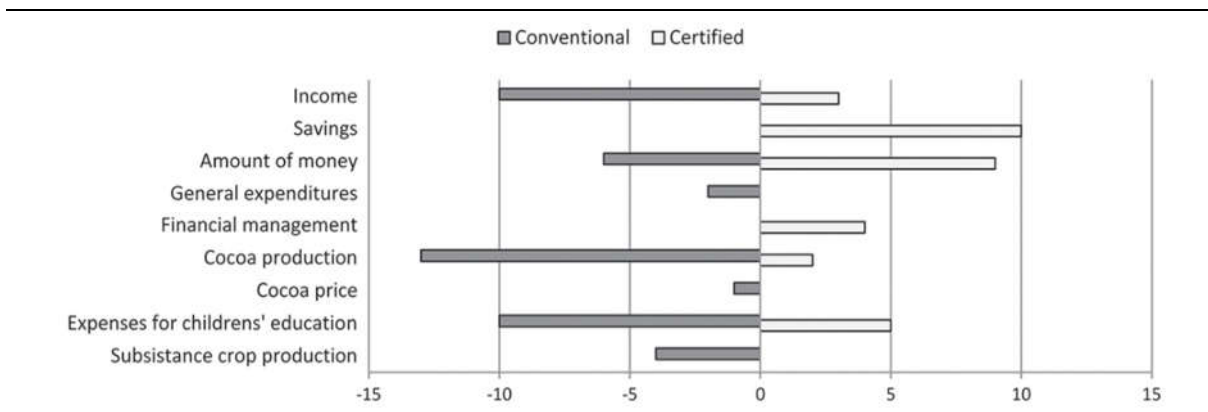
Source: Fenger et al. (2016). Note: "variables are based on optional answers to an open-ended question in the interviews with 15 certified and 15 conventional farmers and the scale shows counts. + indicates an increase or improvement in the condition; – indicates a decrease or deterioration."

In general, the perception of certified farmers shows most of the time a positive change when conventional farmers' impressions are mostly negative. This is highly significant for their income, their ability to save money, their current amount of money available and their cocoa production. Again, these results strengthen the impact of RA certification. Nonetheless, some factors may still influence the good results of this study according to its authors. It is noteworthy that farmers who have been certified are found to be engaged in the Abunu system

in a more favourable way and their level of education is higher in average. Indeed, on one hand, conventional farmers are most likely to be engaged in the Abunu system, where the production is shared equally between farmers and the landowner. While certified farmers tend to be out of the system or have a more advantageous trading ratio with this system, with two-third of their production remaining in their possession. The requirements set by the Abunu system would require further explanation (see for example: Ruf, 2014), but the study of Fenger et al. (2017) shows, at least, that this system "reduce farmers' investment in farm maintenance and productivity", which could explain some differences between certified and non-certified farmers. On the other hand, certified farms have a significantly higher mean of people with high tier education and a lower mean of non-existent education compared to the conventional farmers. This factor could also explain the difference of productivity seen earlier since the most experienced farmers are running certified farms.

In conclusion, the outcomes seem depending upon the label scheme, some market variables, and the research methodology. The certification impact assessment through time, for example, could demonstrate a different outcome than a one-year assessment. But it will not automatically change the label effectiveness. For example, the results of UTZ is worse than the one of Fairtrade when the focus is set to a specific year. Indeed, UTZ did not bring any improvement to farmers' poverty status compared to non-certified farmers in 2017; where Fairtrade manages to change it positively. However, these over-time analytical methods could also reveal some interesting points, such as the productivity evolution over the years. Despite the very good results of RA in Côte d'Ivoire, for example, certified farmers did not improve as much as their conventional counterparts. Of course, these factors cannot be taken as evidence of RA ineffectiveness, but unfortunately it raises new questions about the current evolution of this market and influences that could disrupt the results found in the previous studies. But more importantly, all those aspects mostly remind, once again, about the low number of acceptable studies for the cocoa market. In all cases, and regarding the studies seen, not all labels are good to restrain the poverty situation. Fairtrade and RA seem *heading in the right path*, where UTZ should reconsider their program, especially when they certified producers partially. Unfortunately, it was impossible to find acceptable studies about IFOAM's organic labels. Therefore, no conclusions can be drawn for these certifications. By the way, the current results are mixed and not as good as expected but remains acceptable to fulfil the aim of the SDGs.

4.2.2 Child labour and hazardous activities

Unfortunately, the number of studies assessing the child labour problematic is even smaller than for farmers' poverty status. In general, the results found come from the same studies presented in the poverty section, except for the first one given below. Most of the time, researchers only extend their assessment to other sustainable issues. Still, some relevant data allows a description of the situation and VSS's effectiveness in the market. To begin with, the COSA report (2013) presents very few evidences about this issue for all certification. According to this report, "the percent of household children working in cocoa declined from 2010 to 2012 [in Ghana] for the group participating in the certification initiative", in comparison to their non-certified counterparts which are increasing (fig. 4). Unfortunately, the data are quite small and the explanation close to non-existent. They affirm, at least, that child labour "persists in some farming regions and can be difficult for visiting researchers to detect and classify adequately". Despite the COSA positive outcomes and their robust methodology, the lack of explanation or data depreciate their results, especially when they are compared to more developed studies. Explanation is even more important regarding this case due to the complex definition of *child labour,* as mentioned previously. In fact, certification bodies, and additionally IOs and the SDGs, do not want to *diminish* child labour only, but try to enforce strong labour regulation that have impact on several variables. To put it another way, the main goal is to improve the overall child labour condition in the market by decreasing the number of children working, but also increasing their education level or avoiding hazardous work for them. Therefore, studies require an in-depth assessment regarding those subjects to be considered serious.

Figure 4 – Evolution of children working in cocoa field in Ghana (COSA)

Note: Initiative working (green) stand for all type of certification and the control group (brawn) represent the non-certified counterpart.

Compared to COSA results, Fairtrade does not seem to provide any change in the percent of household children working in the fields in Ghana. Certified and non-certified farmers have 60% of their household members with less than 20 years of age working, without statistically significant differences between the two (Foundjem-Tita et al., 2016). However, when taking care of other important variables, it is noticeable that a slightly higher proportion of children were enrolled in school in the certified household (63.5%) in comparison to non-certified households (60%). Furthermore, members tend to stay longer in school than non-certified farmers (fig. 5). This could demonstrate some positive outcomes from the certification, even if the difference is not very noticeable. Regarding hazardous work, unfortunately nothing can be related to child labour for Fairtrade. It seems members tend to use protective equipment more often, but research could not affirm that this difference was made by applying the certification scheme. No other admissible information could have been gathered with Fairtrade so far. The previous studies seen in 4.2.1 (Foundjem-Tita et al., 2017) does not provide any differences between members and non-members in Côte d'Ivoire.

Figure 5 – Education level of cocoa-farming households (members and non-members) - Ghana
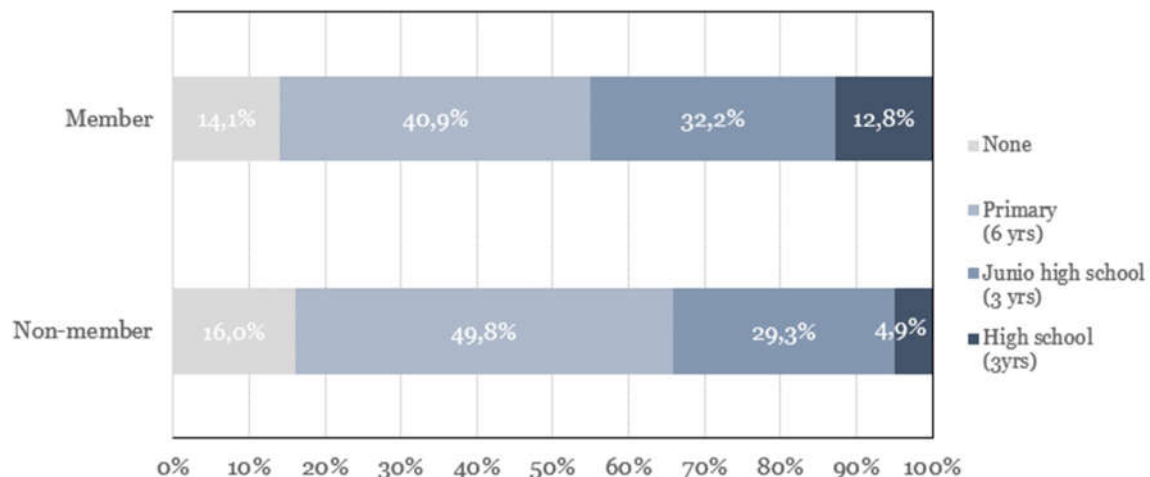

Source: Foundjem-Tita et al., 2016

In the case of UTZ certification, here again, studies assessing the label are rare. Currently, only the studies from Wageningen University have been considered eligible. In Ghana, the two studies from Ingram et al. (2015; 2018) found moderate results about the certification in the country. Those studies emphasize particularly the hazardous activities conducted by children. By the way, in the cocoa market, applying fertiliser and pest or disease control, pod breaking, pruning, or even transporting cocoa to buyers is considered hazardous activities. In any case, in 2011 and 2014, they did not find any differences between certified and non-certified farms in the use of child labour, nor any apparent change over time. Moreover, no differences were found also regarding school enrolment in both groups. At least, a positive claim is made by the researchers regarding hazardous works. In 2014, "fewer

children on certified farms under the age of 14 conducted hazardous activities than on uncertified farms". However, they also explain that the number of days children work in a year on hazardous activities are very *limited* for both groups. Indeed, on average children in certified farms work 0.15 days against 0.6 days for uncertified farms. Therefore, the improvement is noticeable but maybe not significant. Finally, according to the researchers, farms who received the certification have a higher awareness regarding what children should do on the farm or the benefits of school for them. Non-certified producers seem less aware of child labour issues in general.

Additionally, the situation in Côte d'Ivoire is partially the same with interesting particularities. A third study elaborate from the aforesaid research group (Ingram et al., 2017) provides some enlightenment for this country between 2013 and 2017. Children conducting hazardous work are decreasing for both UTZ and non-UTZ farmers since 2013, but the practice is still going. However, defining if UTZ certification was useful in that sense, or bringing proof of their scheme effectiveness become more laborious in regard to the results presented. The figure 6 below is a good representation of this complexity.

Figure 6 - % of cocoa farms where children conduct hazardous activities (UTZ and non-UTZ)
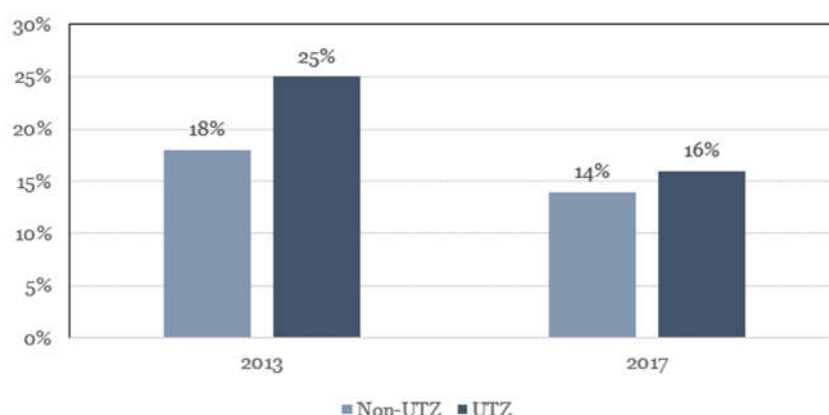
Source: Ingram et al., 2017

It is noted that in both year non-certified producers reported less child labour than UTZ producers. Indeed, in 2013, 25% of all UTZ farmers and 18% of non-UTZ farmers reported using children in their field. And in 2017, both percentages decreased to 16% and 14% for UTZ and non-UTZ planters. At first glance, this is negative for the certification body since UTZ fails at getting fewer children working in their certified farmers in both years. Nonetheless, two important variables could transform the perception of those results. First, the period when the farmer gets certified. If most of the farmers get the certification in 2013 or even in 2012, the period between the certification and this study is not long enough to evaluate the benefits of UTZ's scheme for the first year (2013). Secondly, the evolution between

the UTZ farmers and non-UTZ farmers through times. Indeed, the progression of the two groups could be considered positive for UTZ when compared. In fact, non-UTZ farmers only decrease the number of children working in hazardous activities by 4%, when UTZ farmers manage to decrease it by 9%. This evolution between the two could demonstrate the better performance farmers are reaching through UTZ certification.

Unfortunately, those variables are not robust against some additional results or explanations written in the study. On one hand, no information is truly given in the study about the farmers characteristics regarding the year they received the certification, so no conclusion can be drawn for this first hypothesis. On the other hand, the diminution of child labour is explained mostly by the general knowledge of child labour rights in the two groups of farmers. Indeed, at first sight, UTZ scheme seems efficient since 35% of their members knew the minimum age children are allowed to work, against 18% for non-certified farmers. However, and surprisingly, this knowledge is weakly correlated with being certified UTZ, according to the study. They affirm that this increase of general awareness about child labour rights is mostly associated with "wide scale campaigns" by the government and training given by ANADER[8] or NGOs. These programs impact mostly non-certified farmers, but repercussions of those actions could also affect certified farmers since they were conducted at a national scale and non-exclusive. However, and to be fair, in 2013 the difference between the two groups were statistically significant but this difference decreased drastically through time to finally reach the same level of knowledge between members and non-members in 2017. Therefore, UTZ were maybe efficient but did not manage to maintain the level of knowledge of their members after a few years. In any case, all of this narrows the real outcomes provided by the label, since it is difficult to attribute the impact portion of UTZ programs between all those factors. This is worsened by the fact that children between 15 to 18 years old in certified farms work generally more days in some activities prohibited by UTZ code of conduct than non-certified farmers, especially in pod breaking (21.4 days in a season for UTZ against 19.5 days for non-members) and herbicide use (5.1 days for UTZ against 2.5 days for non-member). Of course, due to the limited numbers of days for the entire season for both groups and the lack of information for children below the age of 15, those results are not *entirely* statistically significant.

Finally, studies assessing this impact for RA certification are almost non-existent. Only few and poor information are provided by the studies already used in the part 4.2.1. Nonetheless, the information seems to be depicting, at least, a positive impact from the label. In Côte d'Ivoire for example (Bennett et al., 2012), children in RA certified farms are more

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[8] ANADER, for National Rural Development Agency, is a national support and assistance agency for the agricultural industry of Côte d'Ivoire.

likely to attend school regularly than in non-certified farms. In 2011, RA's farms have on average 51% of their children that "have completed the appropriate number of grades for their age", for only 13% for the control group. Even if this unique indicator is weak, it can demonstrate an improvement for child labour. Children working overly could have difficulties keeping up with their studies for example. It could also indicate a bad economic situation from the family since the decline of attendance could come from the lack of financial means for school fees. Of course, the information is not sufficient to assert the effectiveness of the label in the country. The same goes for Ghana. The only indicator available for the country comes from the study from Fenger et al. (2016). It presents the evolution of expenses for children's education between certified and non-certified farmers, and the perception is slightly positive for RA's farmers and highly negative for the control group (fig. 3). This outcome is positive but not sufficient to affirm anything. In any case, RA requires much more attention to demonstrate their real impact. Currently, the lack of valuable data does not help demonstrating its efficiency in a clear way.

In conclusion, here again the results differ between labels and due to some market factors. But more importantly, the overall outcomes cannot be considered as sufficient to justify the use of certification schemes to resolve the child labour market problematic. For one thing, the resulting disparity between the labels does not allow a proper analysis. Then, the outcomes are not *classified* as bad or good but, again, as incomplete to truly depict the labels effectiveness. However, in general the results are positive, and the negative side seem to come more from the lack of regular and proper control from certification bodies. But this assumption will be explained more broadly later in the discussion part. Also, it is noteworthy that the three studies from Wageningen did not manage to find statistical significance at 0.1, 0.05 or 0.01 for all their results, which *impoverish* the research for UTZ. In any case, it looks governments or NGOs intervention could be more efficient to overcome the complexity of the child labour issue. Labels can only be considered useful in the case those previous stakeholders are absent or do not have enough means to fulfil their duties on a large scale.

4.2.3 Deforestation and market productivism

Finally, the deforestation issue does not disregard the research limitation already exposed in the two other market issues. In fact, this case is indubitably the worst issue in terms of assessment. However, the case of deforestation is not similar to the previous chapter. There are few important explanations for this lack of *interest* or analysis from appraisers or market stakeholders. Few studies emphasize some of the evidence and can help understand all the difficulties that come across with certification environmental impact assessment. For example, a comparison can be made with forest certification (FSC, PEFC, etc.) (Van der Ven

and Cashore, 2018). It turns out that forest certification deals with an inconsistent evaluation system of their impact. On one hand, environmental outcomes are regularly *over-identified*, which make isolating the impact of certification difficult. Selecting pertinent outcomes variables usable in certification assessment provoke frequent disagreements between the researchers. Also, the constant dynamism of certification schemes reinforces the difficulty of creating proper general theory of VSS assessment. On the other hand, there is a lack of reliable and accessible data in forest certification. Studies designed to assess the environmental impact often encounter errors or breach, barriers in accessing the standards bodies and firms' data, or conflicting units of measurement. Therefore, the debate on relevant dependent variables and the poor data quality hampered rigorous studies of labels' environmental impacts. Then, the current state is worsened by some of the VSS requirements related to deforestation (Kroeger et al., 2017). In fact, these requirements encompass important nuances that can undermine the effort of forest protection. Some certifications' code of conduct is not stringent enough to protect all types of natural forests. In general, standards bodies have strong requirements for primary forest areas but neglect the importance of naturally generated forests (secondary forests). However, the secondary forest protection is crucial in the cocoa market, especially in Ghana and Côte d'Ivoire, since this type of forest represents 92% and 90%, respectively, of the total forest areas. Of course, this depends highly on the certification: RA requirements distinctly stipulate different types of forest including secondary forests, when UTZ and Fairtrade protection *only* target the former. To be fair, secondary forests are mentioned in UTZ and Fairtrade's code of conduct, with non-similar approaches between the two labels, but their related requirements are too permissive. Thus, the legitimacy of the label scheme in resolving the overall deforestation market issue is already debatable upon their requirements. Finally, some evidence shows a certain *productivism rationality* behind all cocoa certifications (Lemeilleur, Ruf and N'Dao, 2015). Most stakeholders (producers, exporters, companies, etc.) consider labels as a productivity-enhancing or traceability-enhancing tool and not a method to reach sustainability. By other means, certifications are mostly used to improve the internal monitoring system of producers or cooperatives for better productivity and quality. VSS's criteria addressing environmental issues seems not receiving as much attention from the aforesaid stakeholders. According to the study, there are two important reasons for that. Firstly, by the *slackening* of properly implementing environmental requirements due to their technical specifications that are often misunderstood, expansive and difficult to evaluate through audits. Secondly, by the goals pursued by the actors promoting the certification adoption. Generally, standards are promoted by exporters, supported by chocolate companies, who follow *market-oriented objectives*. Their goals are mainly concentrated in enhancing cocoa plantation productivity and guaranteeing future supplies. Therefore, they focus on the related criteria for promotion and forget partially about the

environmental aspects. Unfortunately, those criteria are reflected in most of the environmental assessing studies. The studies still hold a chapter related to environmental issues, but focus mainly on *productivist* criteria, such as soil quality, planting shade trees or waste management. Nothing is directly related to deforestation. Some examples can be seen through the studies used in this work (Bennett et al., 2012; COSA, 2013; Waarts et al., 2015; Foundjem-Tita et al., 2016, 2017; Ingram et al., 2017, 2018). Thus, even if these aspects can only explain why there is a current lack of valuable assessment for labels' deforestation impact, those facets cast some doubt upon the label efficiency regarding this market issue. Since the reason is mostly due to flaws from standard schemes and how the market perceives them, this is already not a positive sign for VSS.

Anyway, given the various facts presented above, there is, strictly speaking, no studies directly assessing the labels effectiveness in reducing deforestation. However, their effectiveness can be partially demonstrated through other existing data and research. Of course, it is noteworthy that these data cannot be seen as a concrete answer demonstrating the difference between certified and non-certified producers. But they can still provide a critical view of the results achieved since the standards were introduced on the market. The study from van der Ven, Rothacker and Cashore (2018) for example, is a good first attempt to give an initial response. The aim was, in the first part, to detect whether a significant change has been observed in the evolution of forest density in some countries after the introduction of few standards. For that, they use data provided by the FAO's Global Forest Resources Assessment (FRA) which display the evolution of forest areas in several countries. Through their research, they conclude by saying: "it is highly plausible that [VSS] has neither abetted, nor hindered, the conversion of forested land to agricultural production. We find little existing evidence that [standards] systems actually accelerate land use change by shifting production to less-regulated crops or providing perverse market incentives to expand overall agricultural production. However, we also find little evidence to suggest that [standards] systems are applied widely or prescriptively enough to actually halt environmentally destructive patterns of land use change." (p.141). Their figure below presents quite greatly the idea behind the study (fig. 7). This first attempt draws some conclusions that are not supportive to standards since there is no observable change after their appearances. Nonetheless, the study methodology remains flawed, especially concerning the data for the evolution of forest areas through time. To explain it briefly, they only use data regarding primary forest, and did not include other naturally regenerated forest or planted forest in their analysis. Obviously, deforestation also encompasses those variables and avoiding them can influence drastically the research outcomes in a positive or negative way. Also, the data provided by the FAO may be subject to

*Figure 7 – Annual percentage change in forest cover, 2001-2015*
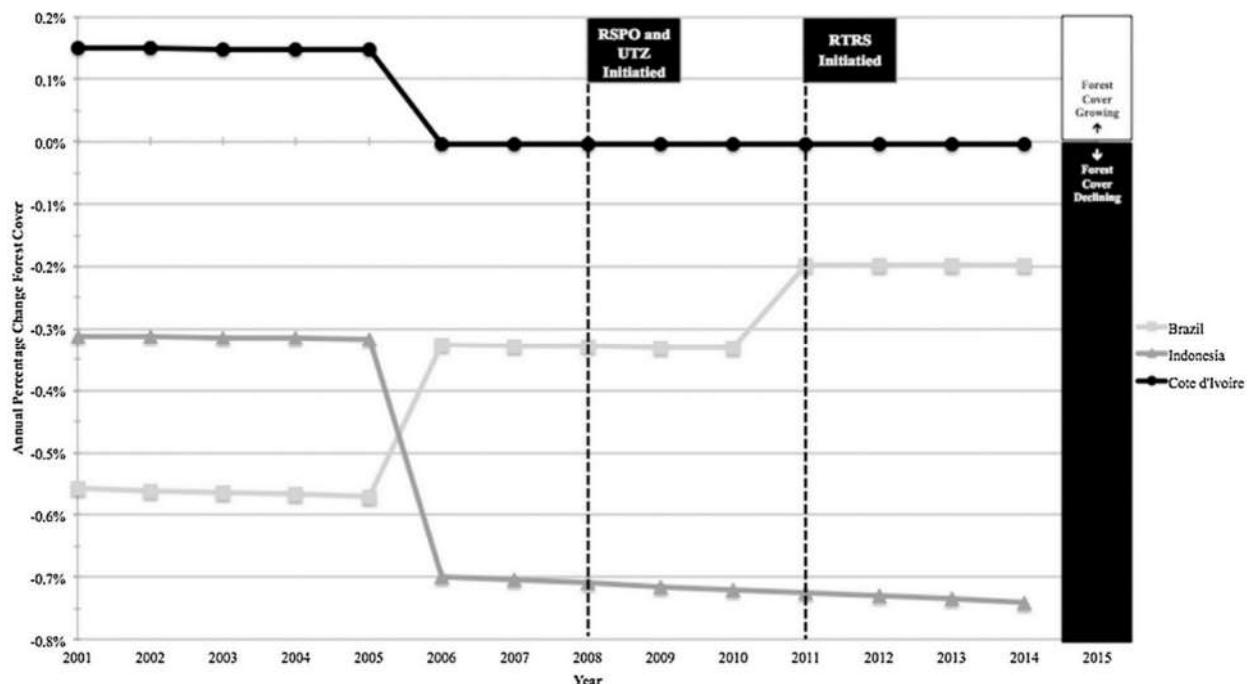
Source: van der Ven, Rothacker and Cashore (2018)

criticism since those data are provided directly by countries (FAO, FRA 2015). It seems Côte d'Ivoire government claims that no change has been reported for their primary forest between 1990 and 2015 or, at least, the data provided by the FAO are assuring that no change has occurred during this period. However, many other sources can demonstrate the opposite (Anderson Bitty et al., 2015; Despretz, 2019; Global Forest Watch, 2019). In any case, what is interesting here is the idea behind this study. The methodology could be used to demonstrate the standards impact if some data are enhanced. Thus, this work will try to extend the research by providing additional contents to help enlarging the available studies for this issue.

First of all, in the previous paper (van der Ven, Rothacker and Cashore; 2018), UTZ was the only selected label for the cocoa market. Since most of the data focus on the overall evolution of forest density in a country, other labels' first appearance must be added in order to possibly demonstrate their impact. The figure below shows, according to few sources[9], when was the first time a cooperative or individual farmer got certified by one of the standards in Ghana and Côte d'Ivoire. Because some standards begin their activities before 2000, some change should be observable during the 21st century, at least.

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[9] All first labels outbreak in Côte d'Ivoire and Ghana are explained more broadly in the appendix n°3. But in general, finding the exact moment when a certification was implemented in a country was difficult, sometimes impossible. The partial information founded help create some assumption.

*Figure 8 – First label outbreak in Côte d'Ivoire and Ghana*
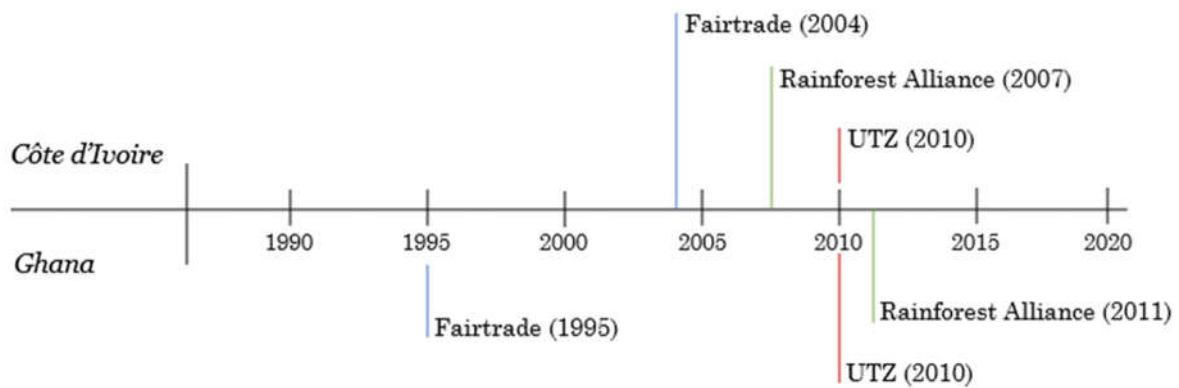
Note: see appendix n°3 for more information

Then, another problem with the previous study was the data used to expose the evolution of forest density. Actually, the data gathering for deforestation is a major issue as seen already above. But recently, few actors decide to create new ways of obtaining valuable information. Indeed, to assess the impact of agriculture in deforestation, geographic information systems (GIS) are starting to gain in popularity. In the cocoa market, (especially for West Africa) three major sources could help extend the research on deforestation: The Global Forest Watch program (GFW), the Cocoa Accountability Map (CAM) from Mighty Earth and the deforestation risk analysis from Castro and Hughell (2017). The latter is a joint effort between Fairtrade and RA to improve the evaluation of deforestation risk in locations occupied mostly by certified producers. It partially reinforces the standard's usefulness in a sense. Even if their impacts are not totally proven or even noticeable, at least, certification bodies are creating a few control systems that could be considered as efficient for future improvement. Of course, other GIS exist and could be useful for researchers as, for example, Google Earth Engine or ESRI. However, the three sources above provide already some analysis about the change of forest density and risk of deforestation. Therefore, it is possible to enhance a bit more the idea of van der Ven, Rothacker and Cashore (2018) through those data.

Unfortunately, nothing suggests that eco-labels have improved the situation with this additional information. In both countries, there is no clear trend variation after the certification establishment. It turns out that the situation seems to have worsened after 2013 (GFW, 2020; figure 9 and 10). In Côte d'Ivoire, the humid primary forest loss has followed a steady trend over the last 20 years, with a peak in 2014 followed by a decrease in the trend. In addition, the total tree cover loss in the country has risen drastically since 2013 without any noticeable improvement. In Ghana, the current state is approximatively the same, but with, this time, a significant loss increases of their primary forest areas after 2013. Moreover, certified cooperatives do not seem to be escaping this general trend. The average level of deforestation in areas occupied by certified cooperatives has exploded also since 2013,

according to Castro and Hughell (appendix n°4). Of course, these data alone cannot prove that labels are inefficient, other variables may explain this drastic change of forest density in their production areas. An example would be the close proximity between certified and non-certified cooperatives in certain areas, as demonstrated by the CAM (see appendix n°4 for an example). However, this raises questions about the current strength of labels to positively impact deforestation in the areas where they are located.

Figure 9 – Primary forest loss in Côte d'Ivoire and Ghana
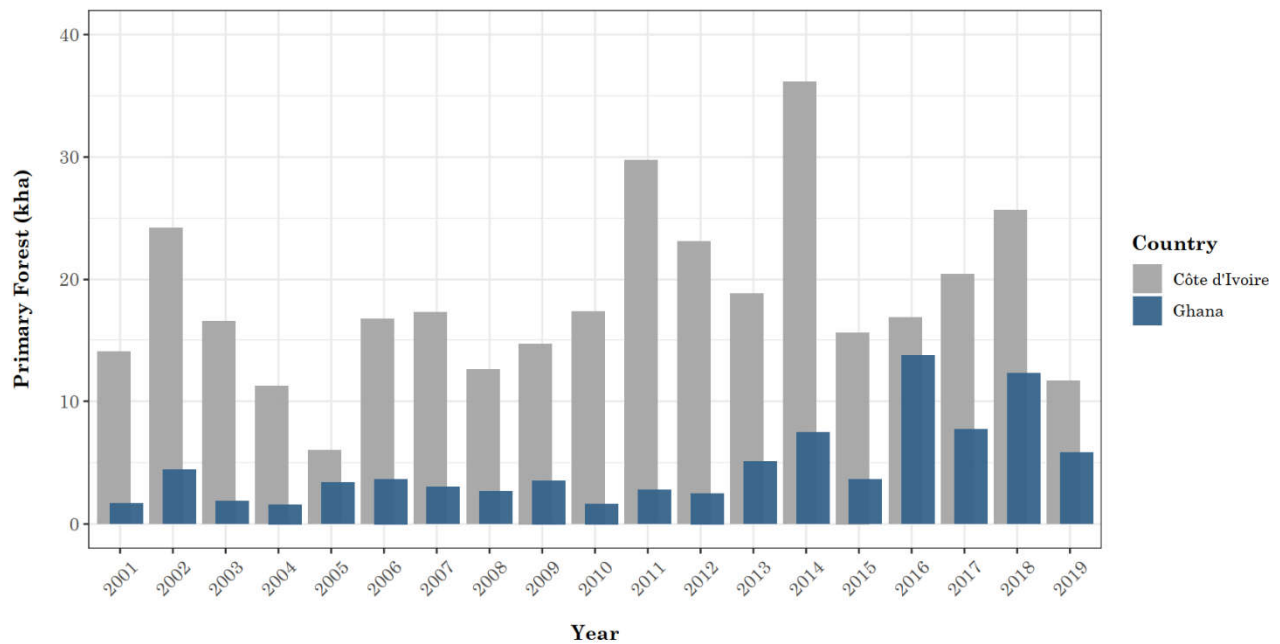
Source: Global forest watch, 2020. Côte d'Ivoire, modified dashboard

Figure 10 – Tree cover loss in Côte d'Ivoire and Ghana
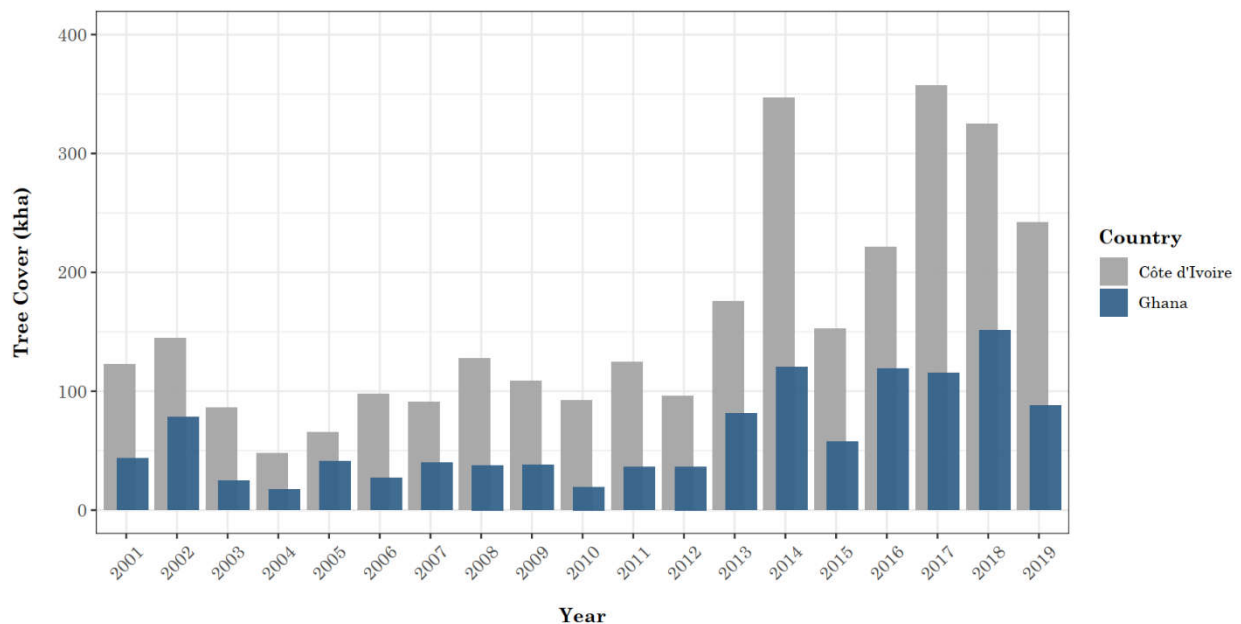
Source: Global forest watch, 2020. Ghana, modified dashboard.

These assumptions have been partially reinforced by a study made by Mighty Earth in 2020. Focusing on seven certified cooperatives in Côte d'Ivoire, the organisation tried to demonstrate their impact on their surrounding forest areas. Even though the study is far from perfect, it seems that these cooperatives have a significant impact on some forest areas and could also be responsible for their deforestation. This even though they are certified. Nonetheless, this study provides important nuances that could explain the impact of these cooperatives. In fact, some of them may handle certified and non-certified cocoa production in the same place. Therefore, the deforestation impact could come from the uncertified production. Furthermore, some cooperatives lost their certification following an inspection, which, in that case, can be considered as a proof of the label control system effectiveness.

Also, other evidence could explain the poor results of labels in the deforestation issue. The study by van der Ven, Rothacker and Cashore (2018) also gives different clues about possible effects. The low coverage of labels in the market or their too big fragmentation in the territory could be major obstacles to the labels' objectives. Indeed, they manage to find a strong plausibility in the insufficient coverage hypothesis in Côte d'Ivoire and a moderate effect of the fragmented assumption for the markets chosen by the study. Again, much more robust research is needed to affirm all these assumptions. But by looking to the previous indicators, currently, certification bodies have a non-existent impact on deforestation in West Africa.

5. Discussion

First and foremost, this systematic review underlines the difficulty to assert that eco-labels can help achieve the goals set by the UN general assembly for a given market. The cocoa market appeared to be a good example to demonstrate the issues associated with assessing the impact of any certification. Despite the fact that Côte d'Ivoire and Ghana are the two largest cocoa producers in the world, the lack of viable analysis for those countries cause, already, a problem in order to define whether the adoption of certifications is a solution to achieve the SDGs. And the lack of scientific resources for the Organic labels impoverished even more this conclusion. Furthermore, the lack of a standardised research methodology makes the comparison between labels' outcomes scientifically difficult. At present, finding similarities of outcomes between each of the existing studies requires a lot of explanation. Then, the fact that certifications are perceived more as a productivity-enhancing or traceability-enhancing tool does not dispel the doubts about some proclamation made by these certification bodies. Indeed, it looks like some of their *certified* solutions for few issues, such as deforestation, are doomed to failure if the perception of certification or their schemes remain at their current state. All of this aside, the results provide interesting information on the current status of certifications and their actual usefulness.

To begin with, it cannot be denied that the impact of an eco-label depends greatly on its scheme. Not all certifications have the same socio-economic or environmental impact in the market. Regarding the outcomes, Rainforest Alliance and Fairtrade performed better than UTZ in their objectives. These results may explain why UTZ and RA recently merged. Given UTZ's long-term objectives failure, it was preferable for UTZ to drastically improve its scheme, or even reconsider their organisation. Of course, nothing has been found to confirm this assumption and it is important to nuance these results. Given the limited number of viable studies available, claiming these allegations may be perceived as some sort of over-interpretation. Then, the outcomes show that certification can be useful for some issues advocated by the SDGs. In terms of improving the poverty level of farmers, through their net income or their productivity, the benefits of labels are not completely insignificant. The studies show that RA is improving the financial condition of farmers in both countries analysed, and Fairtrade has helped reduce the poverty level of cocoa farmers in Côte d'Ivoire. Furthermore, regarding the child labour issue, these two labels have brought positive returns to the regions where they are located. The level of education in certified farms increased more judiciously than their non-certified counterpart and children are less involved in hazardous works in general. These remain positive signs of their real usefulness, at least their schemes are helping the SGDs in some ways.

However, there are many factors that are unfavourable to certifications and must be changed in order to consider labels as a valuable solution. Firstly, even if the available data are paltry, it seems that eco-labels have not been able to prevent the increase of deforestation in both regions. Of course, some reasons described in 4.2.3 explain partially this failure, but these results still imply that some of the labels objectives are not achieved. The difference between what certifications claim to do and the reality of results already shows the shortcoming of their system. It must be understood that certifications are also used by companies and producers to avoid national or international binding policies that could greatly reduce their freedom of action. Therefore, even if it would be exaggerated to say that certifications are directly in *competition* with strict laws, it remains that they must be as effective as these regulations if they want to be considered as a proper solution for the SDGs. Seeing that some of their essential goals are not being achieved is a real issue for their integrity. Obviously, stricter policies do not automatically lead to success. It is often seen that some laws or regulations fail to achieve their own objectives (Campbell and Athreya, 2008; Mighty Earth, 2018). Unfortunately, this is not changing the fact that if labels remain inefficient in some aspects, they will have a hard time lasting in the market and could be replaced rapidly by more efficient laws.

Moreover, this may be even more problematic for eco-labels, if some *easier-to-implement* solutions have already shown their effectiveness in solving some market issues. For example, there is every reason to believe that a minimum price on the cocoa market could be much more effective in reducing the poverty level of farmers. Several studies argue that instability in international prices have a negative effect on farmers' economic outcomes and that setting a minimum price should improve their situation and even allow them to implement long term investment (Hazell, Jaramillo and Williamson, 1990; Barrett and Dorosh 1996; Koning, 2002; Anderson, Ivanic and Martin, 2013; Thennakoon and Anderson, 2015). These claims were even *supported* in the first study on the poverty level of Fairtrade farmers (Fairtrade and True Price, 2018), where it was stated that in order to address the poverty situation in Côte d'Ivoire, it would be necessary that the price displayed during the study doubled. In regard to those factors and the difficulties of implementing and auditing the certification requirements, it might be worth considering whether imposing a minimum market price, through binding laws, would be more effective *in fine*. Nonetheless, certification bodies can be aware of the effectiveness of a floor price and make it mandatory into their scheme. In fact, unlike RA and UTZ, Fairtrade requires that the cocoa price does not fall below 2'400 USD/MT in order to protect producers from being forced to sell their product at a price too low for maintaining economic stability (Fairtrade and Flocert, 2020). Therefore, a floor price is not necessarily at odds with the principle of certification. Additionally, the Premium system of certification can be considered as a partial compensation for producers against these price fluctuations. Given

the relatively small amounts per MT (240 USD/MT for Fairtrade; no premium for RA, compulsory premium with no minimum amount for UTZ) allocated by labels through this system, this cannot be considered as an alternative to a potential floor price. But, at least, few actions are taken by eco-labels to address this issue. Thus, the question would be whether eco-labels are sufficiently effective to offset international price fluctuations or whether more binding laws are required to avoid this impact for farmers.

Finally, due to its characteristics, the cocoa market is kind of special, and the reality on the ground does not always coincide with the statements made by certification bodies. More precisely, in the case of cocoa, the implementation of certification systems and its monitoring are not as *straightforward* as it seems compared to other markets. Additional information could be gathered with the help of the journalist Mr. François Rüchti who was able to analyse more deeply the situation in Côte d'Ivoire and made a few reports about Nestlé Cocoa plan and UTZ certification (see Appendix n°5 for full interview). First of all, cocoa is much more difficult to track than other common products, such as bananas, coffee or flowers for example. The main reason is that cocoa beans are largely supplied in bulk and mixed during shipping or manufacturing. In addition, large central buying services, such as Cargill, only go through cooperatives to obtain their supplies; they are never dealing directly with farmers. Based on these facts, several issues arise regarding the control of the certified production. On one hand, to address the monitoring issue in the cocoa market, eco-labels have put in place a system called *Mass Balance*. Flocert, the monitoring company for Fairtrade, describe Mass Balance as the practice "*which requires certified companies to ensure that the amount of outputs sold as [certified] must be equivalent to the amount of inputs sourced as [certified] (...). The quantity of products or ingredients sold must not exceed the quantity purchased, therefore ensuring that the "balance" is positive.*" In other words, companies may have the opportunity, during the manufacturing process, to mix certified production with non-certified production as long as the volumes of "certified" sales do not exceed the volume of certified *raw* materials purchased by the company. The labels justify these measures by the fact that separating certified cocoa beans at each stage of the supply chain would be far too costly. Thus, even if the benefits of a label can be maintained through the process, this system is subject to debate since it implies that a part of the world production used may come from *harmful*, even illegal production in certified goods. Again, in the case of cocoa, maybe a national or international regulation would be much more effective to avoid sustainable issues in production given the traceability complexity of this market. On the other hand, the mass balance system could be an abuse vector and the market can be subject to inefficient control and manipulation. To begin with, there is already the problem with certified cooperatives. In fact, they are not strictly speaking farmers cooperatives and may not be 100% certified. Mr. Rüchti described the situation for UTZ as follow:

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In general, UTZ cooperatives have 100% of their production certified. But it is possible to see some cooperatives going with 60%-80% of their total production. Also, it should be borne in mind that cooperatives are not farmers's assemblies but central buying services. Usually, a person with a lot of money buys a licence, then buys the production from farmers in the area.

Unfortunately, these details lead, already, to several abuses against farmers or the good traceability of the certified production. Regarding farmers, abuses have been detected in the distribution of premiums. It appears that cooperatives do not share these premiums with farmers as often as is advisable.

Whenever farmers were asked about premiums, they were saying "yes, the premium was promised to us, but it will only come in 2-3 years." Or, "We hope the premium will come, but this year the harvest was bad, so we won't get it." I note that we did not find any farmers who have received it so far. Of course, it is not possible to affirm that producers never received any premiums in UTZ certification, but this shows something underlying. [...] In any case, the cooperatives assure that the premiums are well distributed, but most of the time, farmers are unaware of the premium and label procedures. Often, farmers do not know what they are entitled to or not and, thus, give different "excuses" to justify why they did not receive anything yet. The "2-3 years" reason return a lot by the way. I don't know if labels have some premium process that requires this period of time. There is a lack of explanation from the big groups about that.

Therefore, even if the previous systematic review could not bring enough proof of the premium benefits for farmers, it is certain that no benefit can be achieved if nothing is distributed to farmers. Then, regarding inspection, these cooperatives can be considered as the weak link in the traceability system. The environment makes abuse far too permissive.

Unfortunately, these regions are filled with corruption, incompetence and, above all, a lack of monitoring. First of all, it's easy for these cooperatives to cheat. Every cocoa production bought from farmers can be added in the official register with a simple entry, on a paper. There is no external control over this, and it cannot be approved by the farmer knowing that, in general, he does not know how to write or does not speak French. Therefore, nothing could stop those cooperatives from tampering with certain production and make non-certified cocoa certified. Also, it happens commonly that the cocoa is brought not by farmers but by small transporters on motorcycles. Generally, it's impossible to know where the merchandise comes from, which makes traceability even more complex. Secondly, audit

controls on certified farms or cooperatives have been found to be biased. It turns out that audit firms are subject to competition and low budgets audits are often selected by the certification body. Many of these audit firms we interviewed were complaining about the amount allocated in the budget, because this amount does not allow them to carry out efficient control. Thus, it's easier for them to make sure the indispensable documentation is "in order" with the cooperatives than making true control in the field. Of course, abuses are sometimes punished by certification bodies. Every year, 2 to 3 cooperatives are banned from the UTZ system for example. But, since this situation is recurring each year, it shows already a fundamental problem. By the way, when we went checking some cooperatives banned, we could see that either nothing has changed, like it seems that they are still certified, or that the address indicated leads to nowhere, no cooperative ever existed in that place. In any case, ethically, I can't say that these cooperatives are cheating knowing that I haven't seen any of them doing it. But, if we had to make sure everything rolls for everyone, it would be pretty easy to do it there.

This additional information demonstrates that any fraud or manipulation should be absent from the certification system in order to preserve the labels' integrity. The previous systematic review did not bring enough proof to validate the total *superiority* of labels against their non-existence for the market. Thus, if their system allows additionally multiple abuses, this could worsen even more their fairness, and their supposed benefits could begin to be seriously reconsidered. Finally, these new shortcomings are not abetting for eco-labels, but those aspects are not entirely explained by their *poorly built* system. Critical international issues can be addressed and curtail the labels' action too. It seems that implementing a label has far more issues that one might have imagined.

During my report, I could also interview the executive director of the ICCO. The biggest issue that came out from the interview is the lack of willingness of African governments to increase labels, because the prices and premiums of labels do not go through these governments. The premiums are transferred directly to a cooperative or a farmer. The governments' interest is to be able to control prices and that the financial windfall of the market passed through them. Therefore, they have little interest in having labels, knowing that they have no control of the money over it. According to the head of ICCO, certifications would be favourable to give more premiums, but the fear from African governments losing financial control is huge. By the way, Côte d'Ivoire and Ghana are currently in the middle of a discussion to establish an international market price. They are trying to negotiate for higher prices, which could double the export price at the end. And, of course, this new price would be shared between governments and farmers, so it's more favourable to them. In

conclusion, there is currently a "battle" between two interest groups: the multinationals and the labels against those countries' governments. Everyone prefers to set up their own system as it suits them better. Well, we did not go into too much detail about that, but it might be interesting to deepen that aspect.

In conclusion, the lack of viable data, the complexity and weaknesses of the cocoa market, and the few interest groups involved, make the difficulties of accepting eco-labels as an efficient solution more understandable. However, it must be admitted that given these obstacles, it is highly admissible that other solutions could be much more effective in achieving sustainable objectives. Of course, much more research is needed in order to assess the certification impact and, maybe, change the results in favour of certification. Now on, it is impossible to affirm whether voluntary norms are a viable solution in the cocoa market. There is evidence that VSS are helping, in some way, to improve the situation. But it would be exaggerated to deny the need for an alternative solution in this particular case. Obviously, this does not call into question the validity of introducing eco-labels in other markets. Further studies are needed also to confirm these allegations. In any case, some recommendations will be provided for certification bodies, or even research entities, to possibly improve their scheme or increase the labels performance and impact into the cocoa market. This is all the more important given that certifications have been successful in receiving consumer approval. (Rosseau, 2015; Reis de Andrade Silva et al., 2017) It would be beneficial for them to optimise their system to prevent the general opinion from changing.

6. Recommendations

Although the primary objective of this study is not to increase the use of eco-labels, it was considered appropriate to propose recommendations on the various dubious aspects noted above. To consider certification as a viable solution to achieve the SDGs in the cocoa market, it is imperative that the following points are improved:

- Increasing the number of empirical data available provided by certification bodies to simplify the impact assessment of cocoa certification. Currently, research is struggling to obtain quality data on certified farmers and cooperatives. It would be wise that certification bodies establish a more detailed monitoring system of socio-economic and environmental indicators and make it accessible to the scientific community.

- Develop a common, standardised impact assessment methodology that would be endorsed by the broad scientific community. Most of the studies analysed above contain heterogeneous indicators that may be subject to debate in the worst cases. Having a solid base with relevant indicators for this market would greatly improve the research quality. Maybe the COSA methodology could be a solution.

- Improving the data collection through surveys by considering possible biases inherent to this methodology. Some studies used above indicated the possibility of bias in the positive responses given by certified farmers because the questions were similar to the criteria required by eco-labels. The bias could come from an incentive to appear in compliance with certifications standards and a general desire to acknowledge eco-labels positively. Any studies using surveys should take these aspects into account in order to be considered valuable.

- In line with the previous points, increase the amount of valuable studies for the cocoa market, to better interpret the impact of eco-labels on it. Also, extending the research to other regions, such as Indonesia or South America, in order to have a global vision of the cocoa market.

- Ensure that studies carried out are impartial in every aspect and not biased in favour or against eco-labels. Some studies were perceived to have selected specific data or focused on specific outcomes that enhance or deteriorate the image of certification. These practices should be avoided at all costs. Having a standardised methodology could avoid such processes.

- When studies are done over time, the productivity of certified farms is often evolving at a much slower rate than the one of non-certified farms. It would be interesting to

know whether labels are slowing down the productivity growth of these farms or whether these farms have simply reached a too-difficult-to-improve peak of productivity with their land.

- Considering in the studies internal and external socio-economic factors that could influence the impact of a certification is important too. The Ghanaian cocoa production system is tied with the COCOBOD organisation. As seen in the analysis, this organisation can influence the outcome of certification, so it is essential to consider COCOBOD for any impact assessment achieved in Ghana. Another example is the civil war that Côte d'Ivoire experienced between 2009 and 2011. This may have affected certified farmers since they can be seen as better-performing farmers. The lack of monitoring and support from certification during difficult times may depreciate their effectiveness and bring them back to a situation similar to non-certified.

- Improving the impact assessment for environmental issue by extending the tools used in such studies. Geographic information systems can be considered as a good alternative for estimating the certification's impact on the level of deforestation in a given area.

- It would be wise for eco-labels to ensure the complete package to any new member. Although more research is needed on this point, it appears that allowing farmers or business entities to be "partially" certified offers little benefit or could even worsen the outcomes.

- Improving dramatically the monitoring of certified farms and cooperatives should be a top priority for the certification bodies. Currently, the situation is far too permissive to consider VSS as efficient and trustworthy tool in the West African environment.

7. Conclusion

The main purpose of this study has been to analyse, even if partially, whether eco-labels further the SDGs. To reach this aim, a comparison between the VSS objectives and those of the SDGs has been set up to prove a possible link. Furthermore, an evidence-based systematic review has been performed to assess the impact of eco-labels on a specific market. This work decided to focus on the cocoa market in West Africa, a region that accounts for 80% of the world's cocoa bean production and has significant socio-economic and environmental issues that require solutions.

It has been shown that the relationship between the two approaches' respective objectives is difficult to distinguish, making them similar enough to coexist. Currently, however, there is only partial evidence that VSS is a necessary system for achieving the SDGs. They each bring significant benefits to different socio-economic aspects and can improve the livelihoods of farmers in some ways. Nonetheless, these results differ greatly among the labels, and certifications seem poorly efficient to diminish child labour or market externalities such as deforestation. Regardless, the main issue related with this work is the lack of reliable studies assessing the impact of eco-labels. There are only a few methodologically rigorous studies available for this specific market, which makes it difficult to present any conclusive claim about the eco-labels' usefulness. Moreover, the cocoa market has complex characteristics that make any traceability or monitoring system much more challenging compare to other markets. Many sources suggest that state, or even international regulations of prices could out-perform certifications and more effectively improve the socio-economic conditions of producers than could eco-labels.

Above all, this study calls for a standardised methodological approach for impact analyses to avoid all the possible biases mentioned above. It also calls for much more collaboration among stakeholders, especially certification bodies, to greatly improve the data available for research purposes. Finally, it is essential to optimise the monitoring of certified entities to correct some market issues. The situation in Côte d'Ivoire and Ghana makes abuses far too permissible. Therefore, it is crucial to help reduce those abuses, as much as possible, to ensure the healthy development of the cocoa market.

All of this aside, given the results presented in this study, VSS can be a beneficial additional source of help to achieve the SDGs. However, it should not be seen as the sole solution to resolve all issues in the cocoa market. It is undeniable that the resolution of these issues will not be achieved without the help of the governments concerned. Since few sources consider price as the reason for most of the issues occurring in cocoa production, perhaps global actions should focus mostly on this specific aspect to overcome all sustainability issue in the market.

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VI. Appendix

Appendix n°1 - Selection of studies assessing the impact of certification

Author(s), *Title*, (Year)	A1	A2	B
COSA, *The COSA measuring sustainability report*, (2013)	X		
Klier and Possinger, *Résultats résumés de l'étude d'impact Fairtrade*, (2012)		X	
Mauthofer et al., *Follow up Study – Assessing the Impact of Fairtrade on Poverty Reduction through Rural Development*, (2018)		X	
Rusman et al., *Cocoa Farmer Income*, (2018)			X
Meemken et al., *Effects of Fairtrade on the livelihoods of poor rural workers*, (2019)		X	
Sellare et al., *Is voluntary certification of tropical agricultural commodities achieving sustainability goals for small-scale producers? A review of the evidence*, (2020)			X
Oya, Schaefera and Skalidou, *The effectiveness of agricultural certification in developing countries: A systematic review*, (2018)	X		
Milder and Newsom, *SAN/Rainforest Alliance Impacts Report*, (2015)		X	
Milder and Newsom, *Rainforest Alliance Impacts Report*, (2018)		X	
Yokessa and Marette, *A Review of Eco-labels and their Economic Impact*, (2020)		X	
Aidenvironment, *Evaluation of UTZ in the Indonesian cocoa sector*, (2016)		X	
Ingram et al., *The Impacts of Cocoa Sustainability Initiatives in West Africa*, (2018)	X		
Castro and Walter, *Monitoring the scope and benefits of Fairtrade*, (2018)		X	
Foundjem-Tita et al., *Baseline for Assessing the Impact of Fairtrade Certification on Cocoa Growers and Cooperatives in Côte d'Ivoire*, (2017)	X		
Foundjem-Tita et al, *Baseline for Assessing the Impact of Fairtrade Certification on Cocoa Farmers and Cooperatives in Ghan* (2016)	X		
Selten. *Certification and wage labour in the cocoa sector in Ghana.* (2015)		X	
Fenger et al. *The impact of certification on the natural and financial capitals of Ghanaian cocoa farmers.* (2016)	X		
DeFries et al. *Is voluntary certification of tropical agricultural commodities achieving sustainability goals for small-scale producers?.A review of the evidence.* (2017)			X
van der Ven, Rothacker and Cashore. *Do eco-labels prevent deforestation? Lessons from non-state market driven governance in the soy, palm oil, and cocoa sectors.* (2018)			X
Kaplinsky and Leavy. *Mapping sustainable production in Ghanaian cocoa: Report to Cadbury.* (2007)		X	

Waarts et al., *Impact of UTZ certification on cocoa producers in Ghana, 2011 to 2014*, (2015)	X		
Ingram et al., *Towards sustainable cocoa in Côte d'Ivoire*, (2017)	X		
Molenaar et al., *Fairness in trade matters for sustainability*, (2016)		X	
Gockowski et al. *Improving the productivity and income of Ghanaian cocoa farmers while maintaining environmental services: what role for certification?*. (2013)		X	
Chan and Pound, *Final report: literature review of sustainability standards and their poverty impact*, (2009)		X	
KPMG & GBCC, *Étude sur les coûts, les avantages et les désavantages de la certification du cacao*, (2011)	X		
Paschall and Seville, *Certified Cocoa: scaling up farmer participation in West Africa.* (2012)		X	
Owusu-Amankwah et al., *Implications of third-party voluntary cocoa certification on labour and livelihood systems in Ghana.* (2014)		X	
Schneider et al., *Farm Resilience in Organic and Nonorganic Cocoa Farming Systems in Alto Beni, Bolivia*, (2015)		X	
Fenger et al., *The impact of certification on the natural and financial capitals of Ghanaian cocoa farmers*, (2016)		X	
Loconto et al., *Participatory analysis of the use and impact of the Fairtrade premium*, (2019)		X	
Bennett et al., *Cote d'Ivoire Cocoa: COSA Survey of Rainforest Alliance Certified Farms*, (2012)	X		
Nb of studies per category	**10**	**18**	**4**
TOTAL	**32**		

Appendix n°2 – Full table outcomes.

Table 4. Results Economic Indicators.

Economic Indicators Equation (1)		UTZ		Non-Certified		Effect Equation (1)	Robust	Modalities
		Baseline t = 0	Endline t = 1	Baseline t = 0	Endline t = 1			
Ghana	Production practices score	0.45	0.56	0.39	0.49	0.009		No effects found
	Productivity per/hectare	282.5	311.2	262.5	321.2	−47	Yes	No effects found
	Production costs per/hectare	127.3	385.7	163.8	542.8	−104	Yes	↑ With trainings
	Profit per/hectare	956.5	1274	822.3	1441	−355 **	Yes	No effects found
	Total cocoa net income	3826	5094	3289	5765	−1419 **	No	No effects found
Ivory Coast	Production practices score	0.446	0.497	0.346	0.403	−0.01	Yes	Higher for group 4
	Productivity per/hectare	520	500	256	411	−179 ***	Yes	Higher for group 4
	Production costs per/hectare	22,720	31,125	29,467	33,966	3056.85	Yes	No effects found
	Profit per/hectare	377,238	527,857	160,907	425,113	−116,515**	Yes	No effects found
	Total cocoa gross income	1,692,480	2,575,645	747,808	1,767,034	−128,710	Yes	No effects found

Statistical significance: *** ($\alpha = 0.01$) and ** ($\alpha = 0.05$). The model includes the set of covariates as defined in Table 2. Results are robust when all 4 models, defined in Sections 2.3 and 2.4, show similar results in terms of sign and significance.

Table A4: Descriptive statistics for impact indicators (means for the RA certified sample)

Impact indicators	2009 Target	Control	2011 Target	Control
Economic performance				
Yield (Kg/ha)	539.64 (286.59)**	155.39	576 (232)**	334
Revenue per ha (USD/ha)	664.5 (393.60)**	179.55	922 (388)**	542
Net income (without accounting for synthetic fertilizer or reforestation) (kgs/ha)	n/a	n/a	403[+]	113
Market knowledge (# different market options known per farmer)	n/a	n/a	2.08 (0.43)**	2.53
Quality practices: pod breaking (# best practices used per farmer)	2.93 (0.83)	2.93	3.35 (0.84)**	2.45
Quality practices: fermentation (# best practices used per farmer)	3.58 (0.84)	3.58	2.58 (1.01)**	1.50
Total no. quality practices	10.65 (2.04)	10.65	8.86 (2.23)**	5.92
% farmers saying perception of economic circumstances worsened	n/a	n/a	0.33 (0.47)**	0.75
% farmers saying perception of economic circumstances improved	n/a	n/a	0.67 (0.47)**	0.26
Social performance				
Regular school attendance (% of all children who attend regularly)	0.45 (0.40)**	0.04	0.51 (0.42)**	0.13
Participatory governance (% farmers voting)	n/a	n/a	0.44 (0.50)**	0.17
Participation infrastructure projects (% farmers participating)	0.13 (0.34)	0.13	0.67 (0.89)**	0.06
Environmental performance				
No. of types of waste recycled per farmer	1.73 (1.07)**	1.02	0.44 (0.70)**	0.02
% farmers not recycling	n/a	n/a	0.65 (0.48)**	0.97
% farmers recycling 1 or more types waste	n/a	n/a	0.35 (0.48)**	0.03
% farmers recycling 2 or more types waste	n/a	n/a	0.066 (0.24)**	0.00
No. of conservation measures per farmer	0.07 (0.29)**	0.00	0.42 (0.63)**	0.04
% farms with no conservation measures	n/a	n/a	0.65 (0.48) **	0.96
% farms with 1 or more conservation measures	n/a	n/a	0.35 (0.48)**	0.04
% farms with 2 or more conservation measures	n/a	n/a	0.08 (0.27) **	0.00
% farmers replanting	.40 (0.49)	.40	0.63 (0.49)**	0.27

** significant with 95% confidence

+ significant with 95% confidence with kernel but not with nearest neighbour matching
() denotes standard deviation (with the PSM methods, control means are inferred so have no standard deviation

Appendix n°3 – First label appearance

Eco-Labels	Date	Sources	
UTZ Ghana	2010	https://www.utz.org/wp-content/uploads/2016/04/Impact-of-UTZ-certification-on-cocoa-producers-in-Ghana-2011-2014.pdf	
UTZ Côte d'Ivoire	2010	https://utz.org/wp-content/uploads/2018/06/Towards-Sustainable-Cocoa-in-C%C3%B4te-dIvoire-2018.pdf	
Fairtrade Ghana	1995	https://www.fairtrade.org.uk/Farmers-and-Workers/Cocoa/Kuapa-Kokoo	http://chocolatshalba.ch/en/sustainability/purchaising/cocoa/cocoa-origins/ghana.html
Fairtrade Côte d'Ivoire	2004	https://www.maxhavelaar.ch/fr/producteurs/les-producteurs-fairtrade/produzent/detail/die-kooperativen-union-kimbre-ecookim-von-der-elfenbeinkueste.html	https://www.fairtrade.org.uk/Farmers-and-Workers/Cocoa/ECOOKIM
Rainforest Ghana	2011	https://www.rainforest-alliance.org/impact-studies/toward-sustainable-cocoa-sector	
Rainforest Côte d'Ivoire	2007	https://www.rainforest-alliance.org/impact-studies/toward-sustainable-cocoa-sector	

Email received from the certification bodies

Margret Loeffen <m.loeffen@fairtrade.net>
mar. 14/07, 09:08
Filipe de Oliveira Vilaca ⌄

↩ Répondre à tous | ⌄

Dear Filipe,

It is nice to hear that you are doing a thesis on the impact of levels compared to conventional. It would be nice if you could share a summary of your thesis once ready.
Unfortunately our internal systems go back to 2007 only. For what concerns Ghana, I found in an external publication that Fairtrade was active there is 1995 (note that that was even before Fairtrade international existed): https://www.bioversityinternational.org/e-library/publications/detail/fairtrade-cocoa-in-ghana-taking-stock-and-looking-ahead/

In another external web publication I found that in 2004 there was one Fairtrade certified cooperative in Ivory Coast: https://phys.org/news/2018-09-fair-trade-safety-net-ivorian-cocoa.html , but I do not know if that cooperative only got certified in 2004 or even a few years earlier. Of course, I cannot verify the trustworthiness of those external publications for you either.

I suggest you look for additional publications (grey literature) to determine the first certification in Ivory Coast with more precision.

Regards,

Margret

Margret Loeffen | Evaluation and learning manager
Global Impact | m.loeffen@fairtrade.net | Direct phone: +49 (0) – 228 – 949 23 – 283 | Skype: margret.loeffen | Phone during home office: +49 2228 912354

Rainforest Alliance SAS <sas@ra.org>
mer. 26/08, 03:51
Filipe de Oliveira Vilaca ⌄

Dear Filipe,

For UTZ we have the first certified producers in both countries since 2010

And for Rainforest Alliance
- Ghana: 2011
- Côte d'Ivoire: 2007

Regards,
Ricardo Escobar
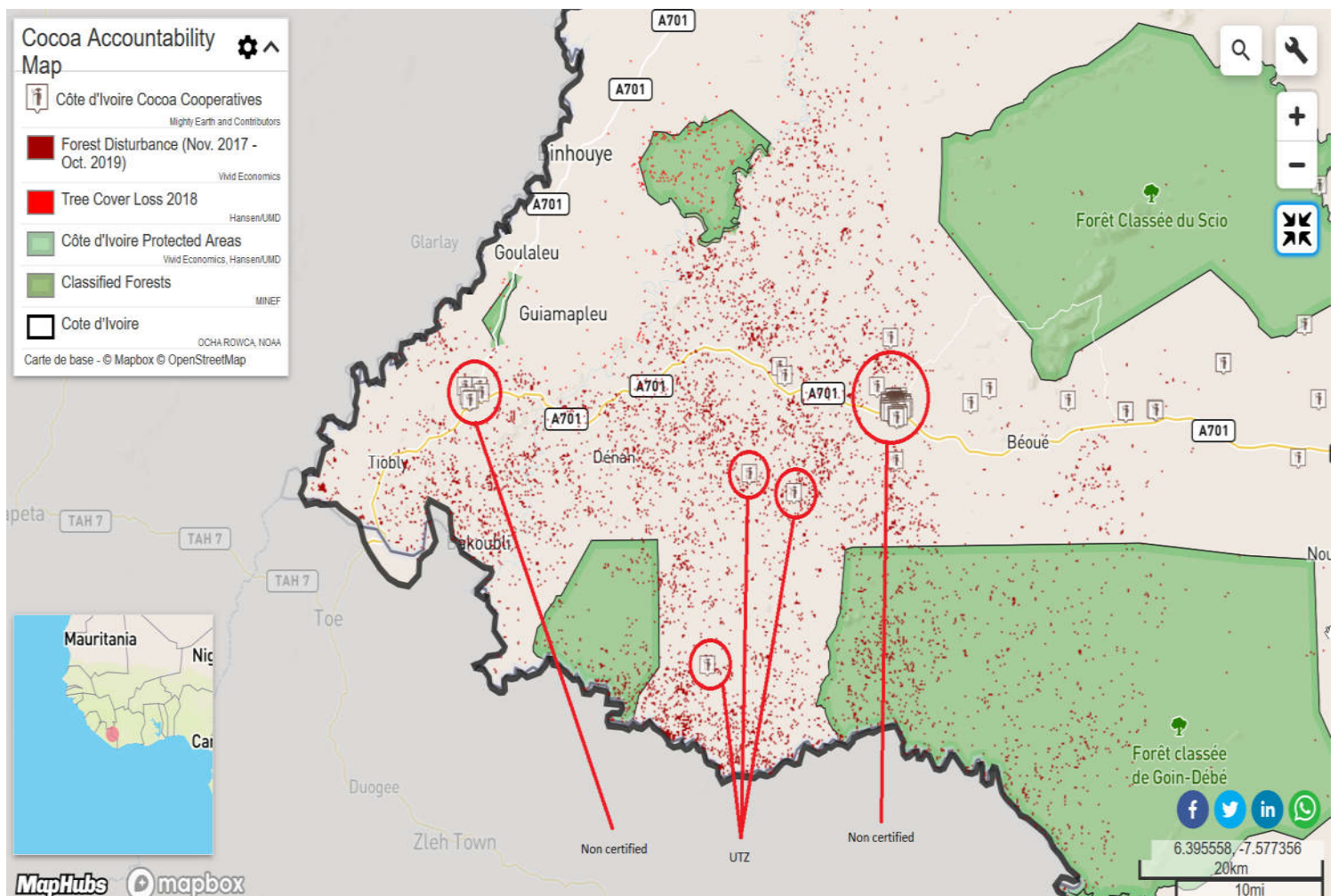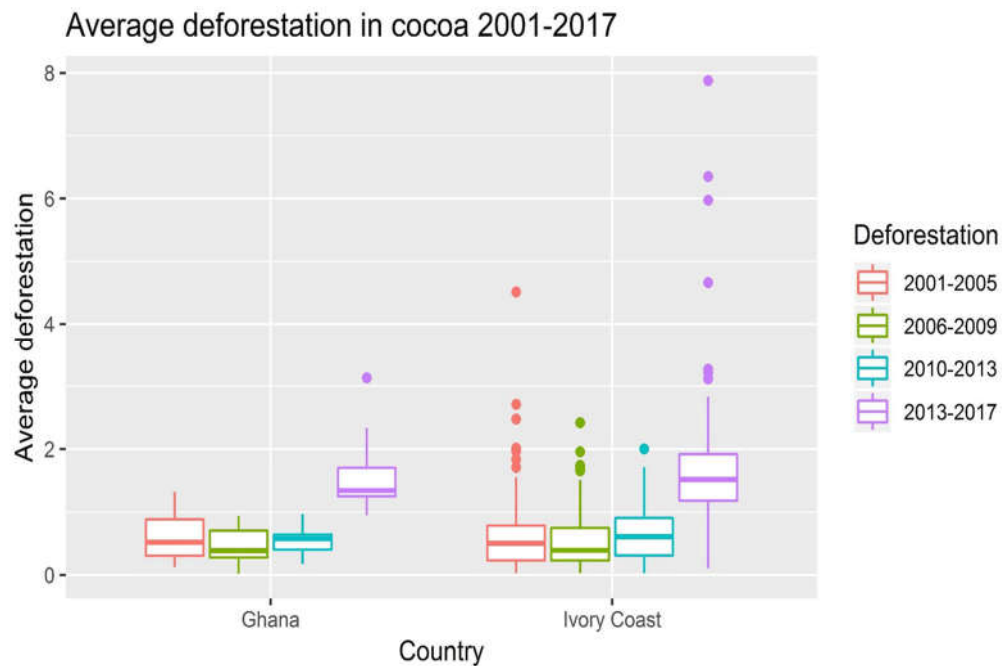Associate CB Management
Rainforest Alliance
8 Ave. 15-62, Zona 10
Guatemala, Guatemala 01010
Tel Directo: 2300-6828

Appendix n°4 – average deforestation in cocoa between 2001 and 2017 and cooperative proximity

Appendix n°5 – Interview, François Rüchti

FOV : Filipe De Oliveira Vilaca
F. R. : François Rüchti

 [QUESTIONS]

Emplacement :

FOV : Est-ce que les deux enquêtes se situe dans la même zone géographique ou il y a eu plusieurs déplacements. ? J'entends dans le pays bien évidemment, on sait que les deux étaient en Côte d'Ivoire.

F.R : On a fait tout le pays, les zones les plus intéressante pour le cacao. De Daloua, centre ouest, jusqu'à Sao Pedro, remonter jusqu'à la frontière du Burkina Faso, Mali. Pas tous a été filmé après. Daloua c'est le premier reportage. Dans le second on a plus bougé. Avec l'armé c'est la frontière avec le Burkina Faso. Ou y'a le plus de travailleur saisonnier C'est un peu les portugais espagnols chez nous, qui fait ce type de travail.

FOV : Dans l'enquête de 2019, vous êtes allé à Gonate où vous êtes allé voir une coopérative UTZ qui mélange cacao certif et illégal. Est-ce que vous êtes retourné là-bas pour l'enquête de 2020 ou justement dans vos 2 enquêtes c'est à chaque fois des coopératives différentes ?

F. R. Non. On change à chaque fois. Gonate c'est à coté de Daloua. Et après l'entretien, Nestlé a décidé de ne « plus » travailler avec cette coopérative. Et ils ont interdit tout accès avec les journalistes (toutes les portes sont fermées). Ça ne veut pas dire que Nestlé ne travaille plus là-bas mais y'a plus d'accès journalistiquement. On ne pouvait plus savoir.

Contrôle, audit et coopératives :

FOV : Dans l'enquête de 2020, vous visitez au départ une coopérative certifiée UTZ, pourtant il est également dit par la suite, qu'il n'existe pas de coopérative uniquement dédiée à la certification pour des raisons de coûts. Vous montrez même à la fin de l'enquête un tableau avec des coopé. Utz et non utz pour expliquer comment le cacao illégal est mélangé avec le cacao certifié.

Donc est-ce que cette coopérative récupère également d'autre sac de provenance non-certifié voir illégal, vous avez pu constater quelque chose ? Ou tout simplement est-ce que vos images proviennent tous de la même coopérative ? (Comment ça fonctionne sur le terrain concrètement ?)

F.R : De manière global, certaines coopératives font du 100% UTZ, d'autre font du 80-60%. Le problème c'est qu'il y a un gros mélange. La plupart du UTZ font du 100%. Celui qu'on a visité ont donné l'emplacement de leurs champs et les fermiers. (Un peu de chance sachant qu'il s'agissant pas du patron, mais de son second et il était un peu moins méfiant. Si le patron était présent ça n'aurait pas été la même chose. Il ne faut pas oublier que ces coopératives n'en sont pas. Ce sont des centrales d'achats. Ce n'est pas un assemblé de planteurs, mais une personne avec pas mal d'argent qui achète une licence, puis rachète les cultivations.

FOV : Puis ça passe par Cargill.

F.R : Exactement et Cargill ne sait pas la plupart du temps où sont les champs, ils rachètent juste à des coopératives. Puis faut faire attention aussi les coopératives de temps en temps n'achète pas à des fermiers directement mais à des petits transporteurs. C'est des gens avec des petites motos par exemple qui amène énormément de sac directement sans forcément connaître la provenance. Enfin, on voit que niveau audit ça magouille pas mal. Par exemple, des coopératives ont 10 tonnes de Utz et 2 tonnes non labelisé, bah ils peuvent inscrire, via une simple écriture dans leur registre et faire passer ces 12 tonnes dans un autre champ.
C'est des personnes qui n'ont pas les structures administratives, ou des formations nécessaire. On peut comparer avec en exemple une centrale de vin en Suisse, c'est quand même hyper structuré, avec des contrôles stricts et un suivit de la production claire. Et pourtant on a pu voir avec l'affaire Giroux qu'il y a eu quand même des malversations. Imaginer en Afrique, avec la corruption de l'incompétence et surtout presque aucun contrôle.

FOV. Donc au vu de cela, il est difficile d'attester qu'il y a une coopérative 100% UTZ. Impossible de l'affirmer avec ce qui se passe ?

F. R. : On peut l'attester Journalistiquement, c'est-à-dire demander à la personne là-bas directement si c'est le cas. Ensuite, les logos à l'intérieur et extérieur, puis les coopératives sont enregistrées dans un registre UTZ trouvable sur leur site. Ils ont un registre pour chaque pays. Surtout que j'ai décidé d'aller vérifier qu'elle était bien certifiée et non exclue, sinon ça dirait qu'au final leur service fonctionne. (Bon ça ne veut pas dire que la coopérative ne fait que du 100% labelisé)

FOV : Pour le reportage de 2019, une personne travaillant dans une coopérative affirme qu'il suffit que la fève soit « propre » pour qu'elle soit certifié. Pas d'autre contrôle. Est-ce que vous avez vu une amélioration après une année des contrôles fait dans ces coopératives. Et ce que la situation n'a réellement pas bougé où quand même vous avez constaté du progrès ?

F.R : Je ne suis pas retourné sur place, pas retourné dans cette coopérative. Je ne peux pas comparer, impossible de dire.

FOV : Dans la même idée, en comparant les deux enquêtes, on peut voir que dans celle de 2020, il est dit que les producteurs reçoivent des primes, même si c'est qu'une 10aine de franc ce qui n'est pas suffisant pour améliorer leur condition de vie. Mais dans l'autre, il est dit que ce sont surtout les coopératives qui les récupéraient en grande partie. Est-ce que là c'est une amélioration notable depuis l'année passée ? Ou peut être simplement ça dépend de l'endroit et des coopératives ? Qui vous a affirmé que les producteurs recevaient ces primes, des producteurs eux-mêmes ?

F.R. Il n'y a pas de changement dans le système de primes. De mémoire, Fairtrade il font en sorte qu'une part doit aller à l'agriculteur, Et UTZ pas d'obligation chiffré. Dans tous les cas, a chaque fois qu'il le demande, les gens répondait, alors oui on nous a promis la prime mais ça sera que dans 2-3 ans. On espère que la prime va arriver, mais cette année la récolte était mauvaise donc on n'aura pas la prime. Je constate que aucun ne l'a reçu pour l'instant. Après c'est basé uniquement sur ce que les agriculteurs disent. Donc il n'est pas possible de dire que systématiquement les agriculteurs n'ont pas de primes, mais ça dénote quelque chose de sous-jacent. UTZ ce n'est pas marqué officiellement que toute la

prime doit revenir à l'agriculteur, c'est juste dit que ça doit être partagé avec la coopérative. Pas eu les détails sur la règle des 2-3 ans, car plusieurs ont sorti cette raison.

FOV : Intéressant, et cette règle de 2-3 ans, ça vient des coopératives ? Que disent les coopératives pour ça.

F.R : Les coopératives disent qu'ils donnent les primes aux agriculteurs. Surtout le problème c'est que pour les agriculteurs, y'a une méconnaissance des procédures de primes et de label. Ils ne savent pas ce qu'ils ont droit ou pas le droit. Donc à chaque fois des versions différentes pour dire qu'ils n'ont pas, ou ne recevront pas de primes.

FOV. Mais comment les grands groupes ou les labels, affirme/Justifie que la prime soit bien transmise.

F.R : Bah ils n'ont pas forcément besoin de le justifier. Les grands groupes ont leur plans, leur système etc. Qui se trouve sur le terrain. Mais a part affirmé qu'ils font ce qu'il faut, y'a pas d'autres preuves. C'est le problème de ces gros groupes et leur plan marketing : ils font un beau story telling avec une coopérative nickel, avec des outils parfaits pour l'agriculteur, pour envoyer une image parfaite. Même des politiciens sont aller pour voir et dire « bah j'ai vu comment ça se passait, c'était nickel ». Mais ils ne se posent pas la question si tout n'a pas été orchestré par l'entreprise qui reçoit, ils n'ont pas choisi la coopérative, l'agriculteur, etc. Et ça c'est problématique.

FOV : A un moment on a pu voir que UTZ répond au critique par écrit après que vous avez montré les travers de certains auditeurs, qu'ils devaient être plus laxiste s'ils souhaitaient garder des audits/clients. Ils affirment qu'ils se sont déjà séparés de deux organes d'audit (je crois). Est-ce qu'il y avait des preuves de ces séparations ? Est -ce qu'ils ont apporté plus d'informations vis-à-vis de ça (sachant que vous montrez qu'une partie de la réponse) ?

F.R Oui, ils ont un site internet, qui listes les coopératives mais aussi les audits qui travaille avec eux et celle qui ont été exclu du programme. Au moins ils avaient les infos utiles pour voir qui on pouvait contacter. J'ai pu également éviter celles exclues pour des questions évidentes de biais. Mais je suis allé visiter une des audits exclus et le plus surprenant c'est qu'elles ont la même tête que celle légal. Aussi, vous pouvez aller à l'emplacement géographique précis de leur bureau, et vous vous retrouver devant une maison d'un mec au hasard, rien d'officiel. Il semblerait qu'il n'y a rien. Fausse adresse. Au cas où, on ne voit qu'une personne dans le reportage, mais on a fait d'autres rendez-vous plutôt similaire pour des raisons de protection judiciaire, face au grand groupe.

FOV : Et enfin qui est-ce cet auditeur qui parle librement de la situation frauduleuse des contrôles là-bas ? Le but n'est pas de connaître son nom mais bien d'être sûr que c'est une source fiable sachant comment il transmets les infos aussi facilement ?

F.R : Le truc c'est qu'il a ce listing du nombre d'audit, qui doivent être à un nombre entre 10-15, ça reste officiel. On les a tous contacté, certains ont répondu d'autre pas, certains ont écrit d'autres ont téléphoné. On est allé visiter physiquement trois.
Donc on a surtout un échange mail. Et ils disent la même chose que la personne qu'on voit dans le reportage. Le mec se défends même d'être un audit sérieux et qu'ils sont en train de perdre des clients à cause de ça. En plus il nous disait que si vous avez des budgets trop haut pour les audits ils n'étaient souvent pas choisis. UTZ privilégie les contrôles moins chers. Et donc les seuls moyens de contrôler c'est soit vous aller dans la forêt vierge

voir si les normes sont bien respectées, soit vous êtes copains avec l'une des coopératives et vous vous arranger à avoir la documentation en règle. Surtout faut prendre conscience de comment est la documentation. Un exemple, imaginons une personne tierce qui donne une quantité de cacao : et bien il suffit tout simplement que le responsable de la coopérative remplisse une feuille parmi la pile qu'ils disposent pour inscrire la transaction. Via une simple feuille de papier, qui peut être rempli très rapidement. Bien entendu, déontologiquement je ne peux pas affirmer que ces personnes trichent lorsque qu'elles remplissent ces feuilles, je n'ai pas vu l'un d'eux faire. Mais le peu de contrôle à ce niveau reste problématique.

FOV : Et c'est ce responsable qu'il fait tout ? pas besoin de la signature de l'agriculteur, ou d'une autre personne.

F.R : Non, d'ailleurs la plupart des agriculteurs ne savent pas écrire et ne parle même pas français. On remarque même très vite qui n'est pas allés à l'école, il suffit de voir qui parle français ou pas. Donc impossible pour eux de signer quelque chose. Après je n'ai pas vu des personnes falsifier des documents, mais d'après ce que j'ai vu s'il faut que ça roule pour tout le monde ça serait assez simple à faire. Et puis sachant qu'il n'y a pas d'audit surprise, voir c'est extrêmement rare, seulement en nécessité, pourquoi ça ne se ferait pas.

FOV. D'ailleurs, ils ont voulu faire un audit surprise après votre enquête ?

F.R : UTZ ont cherché à savoir qu'elle était les zones géographiques, à qui j'ai parlé, pour probablement les punir. Le mail disait qu'ils voudraient améliorer leurs standards, éviter que ça se reproduit, pouvez-vous nous dire ou ça s'est passé, quelle coopératives / agriculteurs afin de les mettre aux normes. Mais je n'étais pas dupe, c'était surtout pour s'en séparer.

FOV : Un peu cynique comme approche non ? Peut-être ils souhaitent réellement améliorer leur label ?

F. R : Possible mais après ça reste un label qui a été poussé par des multinationales, UTZ n'a pas de prix de base minium. Et ça reste la pierre angulaire d'un label. Pour qu'un label fonctionne un minimum il faut ce prix minimum. Au moins l'agriculteur peut construire sa vie avec ce prix de base. Pour UTZ, il n'y a pas de prix minimum, il fluctue selon ce que le gouvernement a décidé. Et pourquoi ils ne mettent pas de prix minimum, car ça coute trop chère

FOV. Vous connaissez les prix d'ailleurs ?

F.R : Je ne suis pas sûr, Mais de base vous payer une taxe pour la partie marketing le fait d'apposer le logo UTZ, ça fait environ 12-13 dollars la tonnes. Puis vous devez payer les primes vous-mêmes, pour la coopérative ou l'agriculteur. En exemple Nestlé paye a utz directement puis fait le transfert.

FOV : Ensuite, dans le reportage, on parle des problèmes de coûts pour obtenir des coopératives uniques a UTZ et aussi des résultats inexistants pour le revenu net des planteurs, est ce que vous avez fait mention de cela durant vos échanges avec UTZ ? Est-ce qu'ils sont conscients du problème ?

F.R : Bah c'est leur propre rapport donc ils doivent être conscient bien évidemment. Après bien sur on a voulu savoir ce qu'ils en pensaient, vu que j'avais des doutes sur ce rapport, vu ce qu'il disait (plus d'enfant qui travaille dans les fermes utz que non utz.). Ils ont commencé a donné des excuses bancales, en disant par exemple qu'en faisant des recherches on trouve plus d'enfant que si on ne fait pas de recherche. Bref ça été confirmé par UTZ. Ça été commandité par UTZ et Nestlé. Et pour séparer les coopératives, utz préfère se focaliser sur le système Mass balance, car c'est plus facile et ça serait trop chère d'avoir uniquement des coopératives utz. Donc y'a la possibilité d'avoir des produits 100% utz, mais ils ne peuvent juste pas le garantir. Le problème c'est que vous devez séparer à tous les niveaux. Vous devez séparer au niveau du grossiste, par container, puis après niveau chocolat. Dès lors il ne préfère pas séparer tout le processus, trop compliqué. Après faut savoir que parfois ça marche. Il y a une des plus grandes coopératives du Ghana, 25'000 agriculteurs qui serait 100% de utz, c'est donc possible.

FOV. Et vous avez vu pour Fair Trade ?

F.R : Pas beaucoup mais on a pu quand même les voir à certains endroits. On a vu une coopérative très proche de foret protégé ce qui est mauvais signe, même s'ils affirmaient que les fèves venaient d'un autre endroit, à 30km. Mais y'a pas eu d'enquête sur ces autres labels. On doit se focaliser sur un axe de recherche, une fois Nestlé, une fois UTZ. Et une fois Fairtrade si c'est possible. Ça reste de l'ordre de l'hypothèse après y'a pas mal d'indicateur qui montre que ça pourrait être similaire. Journalistiquement et a l'heure actuellement je ne peux pas affirmer que c'est le cas. Après UTZ est quand même bien moins chère, pas de prix fixe et le système de primes est beaucoup plus permissive. Enfin Fairtrade n'a qu'une boite d'audit qui font les contrôles ce qui est à double tranchant car on peut le considérer comme plus efficient ou au contraire plus manipulable. En tout cas UTZ a tous les ingrédients pour que ça ne fonctionne pas. Et puis chaque année UTZ grille 2-3 orga d'audit et les exclu, donc il y a un problème de fond. En tout cas, savoir qui fait les audits et connaître son système de concurrence ça peut déterminer si c'est un bon label ou pas.

Infos, personnes et sources

FOV : En comparant les enquêtes il semblerait que la situation est plus problématique niveau cacao illégal, l'officier parle qui s'est déjà fait attaquer, alors que dans votre précédente enquête vous n'étiez même pas accompagné par des militaires. La situation c'est envenimer dans la région, est-ce que c'est dû à des lois plus strictes du pays ? Ça dépend simplement de l'endroit ?

F.R : La grande différence entre le premier et le deuxième reportage, c'est que pour le premier c'était du cacao illégal mais implanté depuis de nombreuses années. C'étaient des zones forestières où ça faisait longtemps que le problème existait et la situation était figé depuis 5-10 ans. Alors que pour le second cas, a Kavali ça venait d'être fait (au plus tard a 6mois). Avec ces plantations très fraiche on peut tomber sur les chefs de clans venant du Burkina et ils amènent les enfants. D'ailleurs j'espère n'avoir pas fait croire qu'il n'y a que des enfants, mais dans ce qu'on montre c'était un jeune adulte. En tout cas, concernant le travail forcé, le deal est horrible, car ils vont voir souvent les parents et leur proposer du travail, ou pour l'enfant et les amènent de nuit en forêt. Et bien sûr, ce n'est pas parce qu'ils viennent du Burkina qu'il est plus habitué de vivre en forêt hein ! Le mec est aussi perdu que toi en forêt. Donc impossible de sortir en plein milieu de la forêt avec les bêtes sauvages ou la distance de parcours, plus de 20km de la ville la plus proche. En

plus, il ne peut pas aller voir les autorités sachant qu'il est immigré clandestin. En tout cas, maintenant le gouvernement, depuis 1-2 ans, commence à se bouger. On voit qu'ils mettent des choses en place pour tenter de mettre un terme à cette situation. En plus, comme preuve de leur honnêteté, la mission à laquelle on a assisté était du hasard. On a contacté le ministre ou le responsable à Abidjan. Et la personne nous a dit qu'il y avait une mission de 15 jours au moment où on y était, et qu'on pouvait aller les voir. Donc là ce n'était rien d'organiser, une vraie opération. Après c'est aussi parce qu'ils ont une pression de malade, sachant que des sénateurs américains voulait faire un boycott général du cacao de Côte d'Ivoire.

FOV. Et En suisse ?

F.R : La suisse a juste mis en place une plateforme du cacao qui consiste à avoir du cacao labelisé à hauteur de 60 ou 80% avant 2025. Ce n'est pas réellement bon signe sachant que si leur seule demande c'est d'avoir du cacao UTZ, si c'est leur seule mesure, ce n'est pas terrible.

FOV : Enfin dans les deux enquêtes vous faites mention du prix de revient à l'agriculteur pour une tablette de chocolat. Ou est-ce que vous avez pris ces infos, entreprise, ONG autres ?

F.R : Public eye

FOV : Pour terminer vous avez eu un entretien avec le responsale principale de ICCO pour parler de la responsabilité des entreprises et des labels. J'imagine que l'entretien à durée plus longtemps que dans vos images. Est-ce qu'il aurait donnée plus d'explication par rapport à la situation, quelles autres questions vous lui avez posé ?

F.R : Avant il était responsable pour les européens. Après lui était assez honnête, il défendait bien les intérêts de tout un chacun. Il a un langage très diplomatique, il doit protéger les Européens, et les africains. Le plus gros problème qui en est ressorti, c'est qu'il n'y a pas vraiment une volonté politique des gouvernement Africain d'augmenter les labels parce que le prix du label ne passe pas par le gouvernement. C'est-à-dire que la prime est transmise directement à la coopérative ou l'agriculteur. Et le gouvernement ce qu'ils les intéressent c'est de contrôler le prix donc l'argent du marché. Donc ça ne les intéresse pas trop que l'argent passe par les labels vu qu'ils n'ont pas le contrôle. Et faut pas se leurrer, c'est une grosse manne d'argent. Donc pour le responsable de l'ICCO, les labels serait favorable à donner plus de primes mais y'a une crainte des gouvernements africains de la perte du contrôle financier. On n'est pas rentré dans les détails mais ça peut être intéressant. D'ailleurs actuellement la CI et le Ghana est en pleine discussion, car les prix sont établis par le gouvernement. C'est un peu comme l'EPEP pour le pétrole, des prix internationaux pour que tout le monde achète à ce prix fixe. Il essaye de négocier pour mettre des prix plus chers, et bien sur la moitié de ce prix va au gouvernement et l'autre moitié aux planteurs. Et ça risque de doubler le chiffre pour le prix d'export par rapport au prix pour l'agriculteur.

FOV : Après ça semble logique, ça peut être bénéfique pour les deux.

F.R : Ouais mais le gouvernement souhaite tout de même que ça soit bien partager entre lui et les planteurs. Tout ce qu'il souhaite c'est garder le contrôle des prix. Au final, tout le monde voudrait être plus sympa avec l'agriculteur. Nestlé parce que ça améliore leur image, les gouvernements car ça améliore les conditions de vie du pays, mais l'effort change à cause de l'intérêt de chacun. Sois-vous travaillé sur le prix soit vous travailler sur le label.

FOV : Est-ce que l'organisation est consciente aussi que le prix du cacao est l'un des facteurs les plus problématique pour le niveau de pauvreté des agriculteurs ? Ou est-ce que vous aviez remis en cause les labels, promouvoir plutôt des lois restrictives ?

F.R Ouais ça il le dit clairement. Peu importe la politique établie, la seule chose qui aurait un véritable impact c'est le prix du produit. C'est la clef du succès et c'est pour cette raison que Fairtrade est dans la base meilleur parce qu'il donne un prix de base. Donc tout n'est pas a jeté dans les labels, il faut surtout voir ce qui devrait être améliorer.

FOV : Merci bien !

Accord de confidentialité
Non-Disclosure agreement

Interview enregistré
Audio-recorded interview

De part ce contrat, Monsieur **Filipe De Oliveira Vilaca**, s'engage à garder confidentiel toutes informations transmissent durant l'entretien avec **Monsieur François Rüchti** et utilisera l'enregistrement audio qu'à des fins nécessaires à l'élaboration de son travail de Master.

Monsieur Filipe De Oliveira Vilaca ne pourra partager l'enregistrement audio qu'avec la personne en charge de superviser son travail de Master, et ne transmettra ni ne fera écouter cet enregistrement à un tiers sans l'accord de la personne susmentionnée.
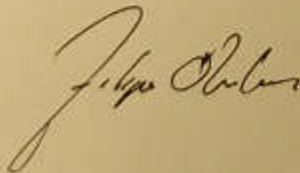
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*By mean of this agreement, Mr. **Filipe De Oliveira Vilaca**, agree to keep confidential all information transmitted during the interview with **Mr. François Rüchti** and will use the audio recording only for the elaboration of his Master thesis.*

Mr. Filipe De Oliveira Vilaca may only share the audio recording with the person in charge of supervising his Master thesis and will not transmit or play this recording to a third party without the consent of the aforementioned person.

Date :

Genève, le 25 Février 2020
Geneva, 25th February 2020

Signature   Signature
Filipe De Oliveira Vilaca   François Rüchti