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EVALUATING AND COMPARING CERTIFICATION SYSTEMS IN THE COCOA INDUSTRY

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Abstract

The proliferation of certifications by private companies, allegedly aimed at aiding impoverished smallholder farmers advancing sustainability practices, underscores the necessity for an unbiased criterion to compare them. Through the application of the theory of change, enhanced by a coding system, the paper demonstrates that players within the cocoa industry, driven by their distinct final goals, adopt different standards, leading to a range of outputs and outcomes. The results shed light on how private companies prioritize their own objectives over the SDGs. It is essential to align private certifications with the SDGs to effectively tackle the challenges encountered by smallholder farmers.

Keywords: Sustainable operations, Certification systems, Cocoa industry, Theory of change, Coding system, Supply chain

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1 Introduction

The objective of this section is to present the problem (section 1.1), outline the research questions (section 1.2), highlight the main findings and results (section 1.3), and provide an overview of the paper's structure (section 1.4).

1.1 Problem

The agriculture sector plays a vital role in global food production and supply, providing sustenance to billions of people worldwide. 2.6 billion people today base their livelihoods mostly on agriculture, primarily in developing countries, where agriculture accounts for more than 25% of GDP and 65% of jobs (World Bank Group 2023; Convention on Biological Diversity 2022). In these emergent nations, in 2016 approximately 500 million smallholder farming households represented a substantial fraction of impoverished communities worldwide, as they subsist on meager earnings of less than $1.90 per day. The Covid-19 crisis has not contributed to improve their situation (World Bank Group 2016, Marsden et al. 2023). While making up 84% of farms worldwide, small farms with less than two hectares of land each, contribute to only one-third of the world's food production (Ricciardi et al. 2018). Small-scale farmers indeed rarely have the finances or education to access the newest technologies, and they sometimes hesitate to explore new ways because they think doing so would jeopardize their own food security and way of life. Therefore, the ability of smallholder farmers to increase their output is hampered by the lack of necessary resources, such as hybrid seeds, fertilizers, and pesticides. Moreover, limited access to profitable, reliable, value-added markets and inadequate availability of pricing information constitutes a significant constraint to their progress (Campuzano et al. 2023). Amid growing awareness and consumer demand for sustainable products (McKinsey & Company, 2023), various interventions have emerged over time with the aim of enhancing the livelihoods of smallholder farmers. Serving as a

beacon of hope, certification systems, commonly referred to as CSs, provide a vital lifeline in this context. One of the primary ways in which CSs are implemented is through the establishment of standards with specific requirements for producers or suppliers, the following monitoring of their compliance through independent auditors, and the continuous provision of support to help producers meet them (Oya et al. 2018). While Fairtrade and Rainforest Alliance are very well-known names, it is important to note that there are now over 400 certification systems operating globally (IISD n.d.). In particular, lately, a growing number of multinationals are moving away from the historical certification systems driven by NGOs and they are establishing their own in-house certification programs. The real causes are yet to be determined (Subramanian 2019). Furthermore, as of today, there is a lack of an established objective criterion that definitively determines the superiority of one certification over another. The absence of a clear benchmark makes it challenging to evaluate and compare the effectiveness of different certification systems. Consequently, the selection of a certification becomes subjective, and stakeholders may encounter difficulty in discerning which certification offers the most comprehensive and impactful benefits.

1.2 Research questions

Given the absence of an objective criterion for comparing certification systems, this paper pioneers the utilization of the theory of change, complemented by a coding system, to comprehend the fundamental differences between certification systems. Specifically, this methodology aims to understand and compare the various players' approach to change, the correlation between their established standards, resulting outcomes, intended impact, and their respective positions within the supply chain.

1.3 Main findings and results

The possibility for private organizations to develop their own certification systems provides them with increased flexibility in resource cost management and, more significantly, in shaping the standards according to their preferences. Notably, a correlation has been discovered between a players' position within the supply chain and their goals, which then greatly influences the standards they establish. It has been observed that private organizations tailor their standards to align with their specific objectives, in contrast to the NGO analyzed that prioritizes achieving the Sustainable Development Goals (SDGs). This underscores the significance of aligning private companies with SDGs.

1.4 Structure of the paper

As for the structure of this paper, Section 2 reviews existing literature on interventions and responsible operations for smallholder farmers welfare. Section 3 displays the research questions which are going to be answered and it elucidates on the methodology used and the rationale behind its adoption. Subsequently, Section 5 analyzes and discusses the similarities and differences obtained throughout the comparison of the diverse theories of change and coding systems. Section 6 presents the limitations of the study and finally conclusions and directions for further research follow in Section 7.

2 Literature review

This section aims to build a foundation about the smallholders' farmers, which were discussed earlier. Firstly, in section 2.1 the development of different interventions on smallholder farmers will be introduced. Secondly, section 2.2 focuses on sustainable operations that are self-implemented by farmers.

2.1 Existing interventions in agriculture

Agricultural interventions are actions or strategies aimed at improving agricultural production, sustainability, and resilience. In detail, they help to enhance the livelihoods of smallholder farmers in developing countries by improving food security, promoting economic growth, improving sustainability, and helping farmers to adapt to the challenges posed by climate change (Food and Agriculture Organization of the United Nations 2016). This chapter aims to review key interventions that already exist for smallholder farmers and their respective impact. Therefore, interventions are categorized into:

1) technology interventions 2) knowledge interventions 3) market-based interventions 4) institutional interventions and 5) risk-reducing interventions (Bizikova et al. 2020; Darnhofer et al. 2012).

Starting off with technology interventions, they focus on improving smallholder farmers' productivity and yields through the adoption of improved agricultural technologies. One important intervention is the introduction of high-yielding varieties of seeds, such as the Green Revolution in India in the 1960s and 1970s (Purohit 2015). Other important interventions are the provision of fertilizers and soil amendments to improve soil fertility or the provision of low-cost irrigation technologies, such as the Treadle Pump Project in Bangladesh (Orr et al. 1991). Secondly, knowledge interventions aim to improve smallholder farmers' knowledge and skills through agricultural extension services and other forms of training. One example would be the provision of agricultural extension services that provide technical advice and training to farmers, such as the National Agricultural Extension Program in Tanzania (World Bank Group 1996). Another intervention case would be the use of mobile phones and other ICTs to provide farmers with access to information and advisory services, such as the Esoko platform in Ghana (Fugar 2020). Thirdly, market-based interventions intend to enhance smallholder farmers' market access and supply chain development to help them sell their products at better prices and improve their income. For example, the

introduction of new marketing channels, such as e-commerce platforms and agro-dealer networks, to link farmers to markets, such as the Kilimo Mart platform in Tanzania (EAC 2023). Furthermore, institutional interventions pursue to improve the policy and institutional environment for agriculture, such as through land tenure reforms, agricultural research and development, and rural finance policies. Lastly, risk-reducing interventions aim to reduce risks and uncertainties that farmers face, such as through agricultural insurance, disaster risk reduction, and climate-smart agriculture practices. Thereby, climate-smart agriculture focuses on productivity and resilience while reducing greenhouse gas emissions and increasing carbon sequestration. It includes practices such as agroforestry, conservation agriculture, and sustainable water management (World Bank Group 2021). All in all, these are the key interventions paired with a few examples that have been implemented around the world. It should be noted that the categorization of interventions can vary in literature. Moreover, categories are not mutually exclusive, and some interventions may combine several approaches to achieve their goals. It is indeed the case of certification systems, which aim to enhance the livelihoods and incomes of smallholder farmers, while also promoting sustainable and environmentally friendly cultivation practices that uphold human rights, by setting and enforcing standards (Oya et al. 2017). The literature research has so far widely investigated on the real impact of interventions, trying to understand the size of their outcomes. Comparing different interventions, however, has never really been undertaken as the evaluation of the effects deeply depends on the chosen methodology, the crop and the country in which they are implemented (Oya et al. 2018).

2.2 Responsible operations for smallholder farmers

Contrary to agricultural interventions implemented by other actors, smallholder farmers, who typically have limited resources, can implement a range of practices on their own to improve production, sustainability and resilience. These actions are often low-cost, low-tech solutions

that can be easily implemented and can have significant benefits for farmers and the environment (Bragdon et al. 2015; Asare-Nuamah et al. 2022). One such approach is conservation agriculture, which involves practices such as minimal soil disturbance, crop rotations, the use of cover crops and mulching to improve soil fertility and reduce erosion. Ultimately, this should lead to a positive impact both on the environment and the farmer's bottom line (Cornell University 2015). Agroforestry is another approach that involves integrating trees and shrubs into agricultural landscapes to provide a range of benefits. Trees can help to stabilize soil, provide shade and shelter for crops and livestock, and provide a source of fuelwood and other products. This approach can also enhance biodiversity and provide habitat for wildlife, which can contribute to the overall health of the ecosystem (Lebrazi et al. 2022). Smallholder farmers can then use crop diversification to improve their agricultural production and sustainability. By growing a range of different crops on their land, farmers can spread risk, reduce the impact of pests and diseases, and provide a diverse range of products for sale. Intercropping, where two or more crops are grown together in the same field, can also help to improve soil health and reduce erosion (Makate et al. 2016). Otherwise, smallholder farmers can come together to form cooperatives, which helps to pool their resources and expertise (Prager 2022). Cooperatives offer numerous benefits to farmers, including the ability to negotiate higher prices for their products, access markets that may be otherwise out of reach, and share valuable knowledge and best practices (Terrascope MIT 2014). Finally, appropriate technology can be an important tool for smallholder farmers looking to improve their agricultural production and sustainability. Technologies such as sustainable water management, low-cost irrigation systems, rainwater harvesting, and solar-powered pumps can all help to improve efficiency and reduce waste. These technologies can be low-cost and easy to implement, making them accessible to even the most resource-constrained farmers (Bragdon et al. 2015; Finley 2016). In conclusion, smallholder farmers

can implement a range of interventions on their own to improve their agricultural production, sustainability, and resilience (Tambo et al. 2017). However, the main structural problem comes from the fact that most of the times they are not aware of the real benefits generated by these practices, and they are scared to take on any risk which could potentially damage their cultivation (Dessart et al. 2019). Agricultural standards can be an effective incentive for farmers to adopt them. Standards often set criteria that require farmers to form or participate in democratically run organizations, implement sustainable practices such as crop diversification or agroforestry, offering a premium in return (Thompson 2022). By providing tangible benefits to farmers who implement these practices, agricultural standards can thus encourage their establishment and help to create more sustainable and resilient farming systems.

3 Research questions and methodology

The literature review has provided compelling evidence for the positive impact of certification systems on smallholder farmers' livelihoods. However, recent developments have seen private companies creating their own certification systems, moving away from relying on NGO certifications. This trend raises questions about the motivations behind this shift, which may go beyond the actual effectiveness of implementing standards. Currently, there is no objective criterion that decisively compare diverse certification systems. The need for a reliable evaluation framework becomes apparent to enable informed decision-making and promote transparency in the assessment of certification systems. In light of this, this study, through the deployment of the theory of change framework complemented by an ad-hoc coding system, addresses a research gap in the existing literature, comparing different certification systems based on the standards established, their approach to change and their intended impact. The link between the aimed change and the position of the players in the supply chain is also explored. Therefore, the following research questions have been developed:

RQ1: How and why different certification systems seek to bring about change? In what do they resemble and in what do they differ?

RQ2: Can those similarities and differences be explained in light of the position of the player along the supply chain?

In order to answer to the research questions, this study has initially focused on the cocoa crop to assure a targeted and tailored analysis (section 4.1). Secondly, three primary certification programs, each belonging to a key stakeholder positioned at a different stage of the cocoa supply chain, have been chosen (section 4.2). With the purpose of assessing the outcomes and the final intended impact of these three certification programs, a theory of change has been developed (section 4.3). Moreover, a coding system has been established to perform an accurate analysis on the standards set and their primary areas of focus (section 4.4).

4.1 Selection of the crop

With the aim of understanding which crop would have better suited the scope of the paper, an extensive analysis has been performed. First of all, the crops with the highest coverage of certification systems have been selected, namely coffee (21.0%), cocoa (47.3%) and palm oil (20.0%) (International Institute for Sustainable Development 2023-a; International Institute for Sustainable Development 2023-b; International Institute for Sustainable Development 2019). On a preliminary assessment, palm oil has been excluded as there is an absence of diverse certification schemes led by different players along the supply chain. Roundtable on Sustainable Palm Oil (RSPO) governed by a non-profit association dominates the industry with a 19% of market share (14.7 million MT certified palm oil against 75.9 million MT global production), entirely supplying giant food multinationals, such as Unilever, Mondelez and Nestlé (International Institute for Sustainable Development 2019). On a secondary evaluation, coffee has also been disregarded, as it has found to possess in most cases a

"hybrid" certification model, wherein key industry players develop in-house certifications while still sourcing a significant portion from NGOs-led certifications (e.g. Nestlé has developed AAA sustainable quality program, while keeping on sourcing 49.34% of its coffee volumes from Fairtrade, Rainforest Alliance, FLO, FTUSA (Nespresso 2023). As a result, while some interventions are set by the businesses, the organization from which the corporation buys its coffee is responsible for setting the standards governing the supply. When analyzing the cocoa industry, it is possible to clearly identify that each primary actor of the supply chain has developed its proper form of certification model. In particular, this scenario has only recently taken shape and started in 2016 when Mondelez left Fairtrade to develop its own Cocoa Life program, followed by Nestlé with Cocoa Plan and the processor Barry Callebaut with Cocoa Horizons (CBI 2020). The crop has always received great attention because of the environmental and social issues linked with its cultivation. Cocoa farming has in fact contributed to 70% in loss of forests in Ghana and Cote d'Ivoire over the last three decades and its production keeps on threatening rainforests in the Congo Basin, the Amazon Basin, Colombia and Indonesia (Reuters 2021). Child labor and slavery are constants in the cultivation of cocoa in West Africa, especially in Cote d'Ivoire and Ghana, where 1.56 million children are involved in dangerous work (U.S. Department of Labor 2021). Notably, climate change and a growing demand, estimated at a 4.86 % CAGR 2023 – 2025 (Statista 2023), have inevitably drawn more focus on the crop recently, which, if not treated with the correct measures, could enhance deforestation practices, child exploitation and forced labor. Consequently, cocoa production could risk to not keep pace with the growing demand.

4.2 Selection of the players in the supply chain

Once cocoa has been selected as the crop of reference, a detailed analysis of the cocoa processing steps has been performed in order to identify the key actors of the chain. The first stage of cocoa supply chain is represented by the cultivation of cocoa beans in farms. Once

they are ready, they are harvested, removed from the pods and let fermented for days. After the fermentation process, the beans dry under the sun, up to a week and when they are completely desiccated, they are transported to the processing site either by local intermediaries or by exporters. The second phase, the processing stage, normally involves roasting and grinding of cocoa beans. The nibs following obtained are grounded to produce cocoa liquor and cocoa cake, which is then pulverized to produce a fine cocoa powder. From these ingredients, sugar, butter, vanilla, milk and other products can be added to obtain chocolate. In the next stage, confectioneries create final products to be sold to distributors and retailers, which then deliver them in the last stage to the final customers (UNCTAD 2016). Farmers, processors, confectionary companies and distributors or retailers are recognized thus to be the key players in the chain (Figure 1).

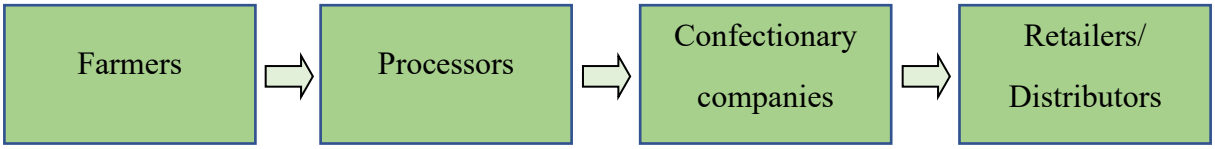

Figure 1: schematization of cocoa supply chain

All the certification schemes covering cocoa have been analyzed, but just one per each stage of the supply chain has been selected in order to have a focused inter-stages comparison. Beginning with the first stage of the supply chain, farmers, the programs developed by Fairtrade and Rainforest Alliance have been identified to be closest to this segment. Fairtrade and Rainforest Alliance, founded respectively in 1992 and 1987, have indeed been the first certifications schemes created to give farmers a fair revenue and to save biodiversity (Fairtrade 2023-a; Rainforest Alliance 2023). Nowadays, they are still the main NGO players providing certified cocoa, Rainforest Alliance with 1.412.213 Megatons (MT), while Fairtrade with 699.234 MT (Fairtrade n.d-b.; Neger 2022). The considerable volumes of cocoa sourced through Rainforest Alliance can be attributed to its recent merger with UTZ, a

former NGO certification program. As a result of the merger, the UTZ certification program and label are being gradually phased out and replaced with a merged program that has been defined but not yet fully implemented. The Fairtrade certification program has thus been selected to represent the farmer's stage of the cocoa supply chains, as it's fully defined and implemented since 1992. Proceeding to the next stage of the supply chain, Barry Callebaut, Cargill, Olam and Blommer are the main players of the grinding market, with respectively 24%, 17%, 17% and 7% of market share each (Food and Agriculture Organization of the United Nations 2020). Barry Callebaut is the only supplier which has completely developed its cocoa sourcing standards, as well as other interventions, part of the Cocoa Horizon program. Meanwhile, the other processors still have solid partnerships with Fairtrade and Rainforest Alliance, from where they usually source nearly half of their supply (Cargill n.d.; Barry Callebaut n.d.-a). Therefore, Barry Callebaut's program has been selected as the subject of the analysis. Moving forward to confectionary companies, Mondelez has been the first corporate to terminate the partnership with Fairtrade in 2016 (The Independent 2016), followed then for now just by Nestlé which decided as well to pull out from the NGO certification system in order to source cocoa from its cocoa plan (Confectionary News 2018). Contrary though from Mondelez, which entirely sources its cocoa volumes from its own in-house program Cocoa Life, Nestlé keeps an important partnership with Rainforest Alliance, which certifies 50.6% of the multinationals' cocoa supplies (Nestlé 2021). Concerning distributors and retailers, nobody of them develops any certification programs due to their distance in the supply from the production source. Given this information, retailers and distributors have been left out from our analysis, but it is interesting to know that 100% Lidl and Aldi's cocoa supplies are either Fairtrade or Rainforest Alliance certified (Lidl n.d.; Aldi 2018).

4.3 Theory of change

A theory of change has then been developed for each certification program of the key players selected, in order to evaluate and compare outputs, outcomes and final impact intended by the players. The theory of change is a framework which displays how and why a certain intervention is expected to bring change (Theory of Change Community 2021-a). The concept of the theory of change has been retrieved from Weiss's work (Weiss 1997). It builds up from both the implementation theory, which focuses on how the program is carried out, and the programmatic theory, which deals with the causal mechanisms between the activities and the final result. In this paper, the theory of change will thus draw the links between the standard setting activity of the players and their desired impact. The framework's core components, which can be seen in Figure 2, are activities, outputs, outcomes and impact. Where the activity corresponds to the certification system deployed by each player. Outputs refer to the short-term tangible products as result of the action. Outcomes are the behavioral changes arising from the project outputs. Moreover, they can be considered as the assumptions which needs to be true for the objectives to be achieved. Impact is the long-term strategic change derived from an accumulation of outcomes. It represents the goals the organization wants to accomplish (Weiss 1997). Furthermore, the conditions needed for the success of the program, referred to as "assumptions" and core components of the framework as well, are considered equal among the theories of change in order to carry out an objective and comparable analysis (Theory of Change Community 2021-b).

Figure 2: Theory of Change core components

With the aim of creating an unbiased and comprehensive theory of change for each selected player, an accurate and rigorous analysis has been conducted to assess the causal links between the certification system and the respective outputs, outcomes and impact. This analysis drew on a range of public sources, including literature reviews, official program

documents and press release in order to ensure the accuracy and reliability of the information used. It does not include any personal assumptions which might have negatively influenced the objectivity and validity of the analysis. By utilizing diverse and reliable sources of information, the resulting theory of change provides a robust and evidence-based framework for understanding the link between each element and the aimed goals.

4.4 Coding system

A coding system has been deployed to have a better insight on the area of focus of the standards established by the different certification systems. First of all, based on the triple bottom line framework, three main areas of impact have been identified: economic, social and environmental. For each macro-area, relevant sub-sections have been detected based on a deep analysis of the requirements set to be met by the farmers in order to gain the certification (Appendix 1). Furthermore, an examination was conducted to determine whether the supplier's compliance with the selected criterion was mandatory or if it could be achieved through a developmental approach in the coming years. Once all the requirements demanded by each player have been categorized, 1 point has been assigned to each requirement (Appendix 2). The final sum of points obtained per each actor provides a quantitative measure which reflects the extent to which they prioritize different areas of intervention and in what manner they engage with these areas (Appendix 3).

5 Analysis

The initial aim of this analysis is to gain an understanding of the outputs, outcomes and final impact that arise from the implementation of each certification system belonging to the players selected. This section focuses indeed to comprehend the framework behind the intended change. Specifically, the causal links drew for the theory of change of each player proven through evidence require no further explanation, while the ones based solely on the

beliefs of the players and lacking supporting evidence will be subjected to further examination and critical questioning. Furthermore, the appliance of the coding system enables a thorough assessment of the outputs generated by the standard-setting activity, as well as their link with the final impact aimed by the players.

5.1 Fairtrade evaluation

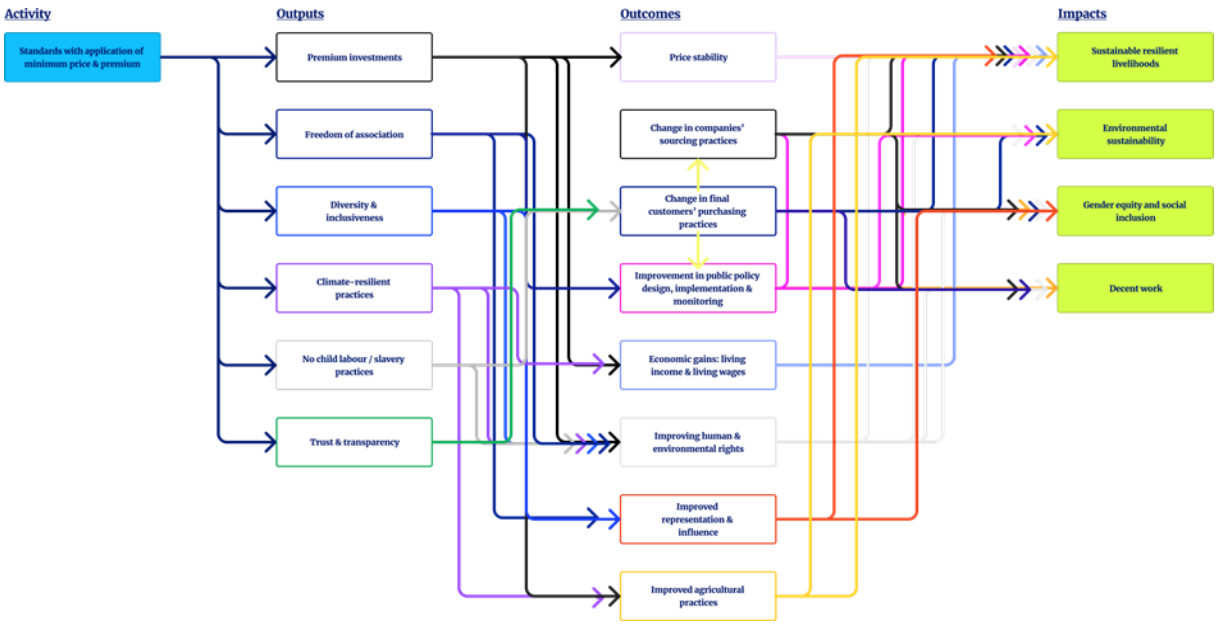

Figure 3: Elaboration of Fairtrade theory of change

The Fairtrade certification system generates six diverse outputs, which are displayed in Figure 3, representing Fairtrade theory of change. The following assumptions hold between intervention and outputs: the implementation of the standards is effective and efficient, the premiums delivered are used to reach crucial scopes shared by the whole community. Each output is expected by Fairtrade to generate in turn several outcomes, presented in the third column. Starting from the premium investments (representing the investments made through the price premium, a sum is on the top of the market price, or the minimum price if activated, which currently amounts at 200$/ton), they are supposed to bring price stability and economic gains (Fairtrade 2023-b). Considering the fact that the average yield of a smallholder farm is 0.8 ton per year, this result in 13$ on average per month which should be democratically

allocated to enable projects which provide benefits to the workers, their families and communities (i.e. training, schools, equipment, health system ecc.) (Ritchie 2022). In light of the foregoing, as the average income per farmer is 1.5$ per month (while the World Bank poverty line is set at 2.15$ per month), most of the time these premiums are used first of all to increase the living wage, with nothing left to reserve for the implementation of the operation plans (Our World in Data 2022; Angel 2022). Thus, it is comprehensible how the outputs resulting from the premiums indicated in the theory of change could occur only if a fundamental assumption, that is, the existence of a minimum living income, is already in place. The key message presented in the Cocoa Barometer annual report of 2022 is self-explanatory of this situation "*When farmers must choose between feeding their family, and not cutting down old growth trees, it is not a choice. When they must choose between feeding their family or sending them to school, it is not a choice either. Without a living income for cocoa farmers, cocoa will never be sustainable*" (Fountain et al. 2022). It is interesting to notice through the coding system how living income is one of the few sections which has zero mandatory requirements, but rather five development ones (Appendix 3). This definitely signals the importance Fairtrade attributes to it, as well as its commitment to improve this deplorable situation, but at the same time it highlights the weak position of the organization to alter market dynamics. Moving on to the output "Freedom of association", it is intuitive how trade unions allow workers to have a stronger voice. Associations, as previously seen in the literature review, are a mean to ensure a social dialogue which leads to good labor relations as well as lasting change and impact. In the same way, the safeguard of diversity and inclusion helps to create stronger producer organizations, enriched by the enhancement of group thinking and innovation (Rock, D. et al. 2016). Stronger producers' organizations have also the power to influence and help governments to design effective policies which can address smallholder famers issues (Rajwani et al. 2015). The appliance of certain standards aims as

well to protect the environment, which can be greatly damaged by the cultivation of cocoa. Regulating the usage of pesticides or implementing practices to protect biodiversity are examples of requirements which lead to a reduction of violations of environmental rights, along with the creation of more competitive and resilient crops (Thompson 2022). This brings about positive change in the agriculture practices, as well as in the economic gains which can benefit from resilient and productive crops. Furthermore, one of the main objectives of implementing a certification system is to eliminate child labor practices in the cocoa industry. Child exploitation remains a significant problem in this sector, and sourcing cocoa only from farms that do not engage in these practices is an essential step towards ensuring a better future for children and respecting their fundamental human rights. While the causal links between this output and its respective outcomes may seem logical and intuitive, it is uncertain whether the absence of exploitation practices to make a chocolate bar would be sufficient to compel consumers to buy it. The decision-making process of consumers when buying a product is influenced by a multitude of variables (Tauber 1972). Therefore, another strong assumption to consider is that consumers consistently prioritize chocolate bars with the highest social and environmental practices for cocoa cultivation, without being influenced by other factors that could impact their purchasing decisions. Finally, trust and transparency along the process is a fundamental factor which is needed for customers to make an informed acquisition. In this case as well, as assumption, customers value the possibility to know where and how the cocoa purchased was cultivated. All the previous listed long-term results are crucial to reach Fairtrade's final objective. The ultimate aim of the organization is indeed to empower producers to fight against poverty, fortify their position, protect the environment, and gain greater control over their lives (Fairtrade n.d.-c). Fairtrade's intended change is thus completely aligned with the Sustainable Development Goals (SDGs), and as such, it plays an important role in contributing to their achievement.

5.2 Barry Callebaut evaluation

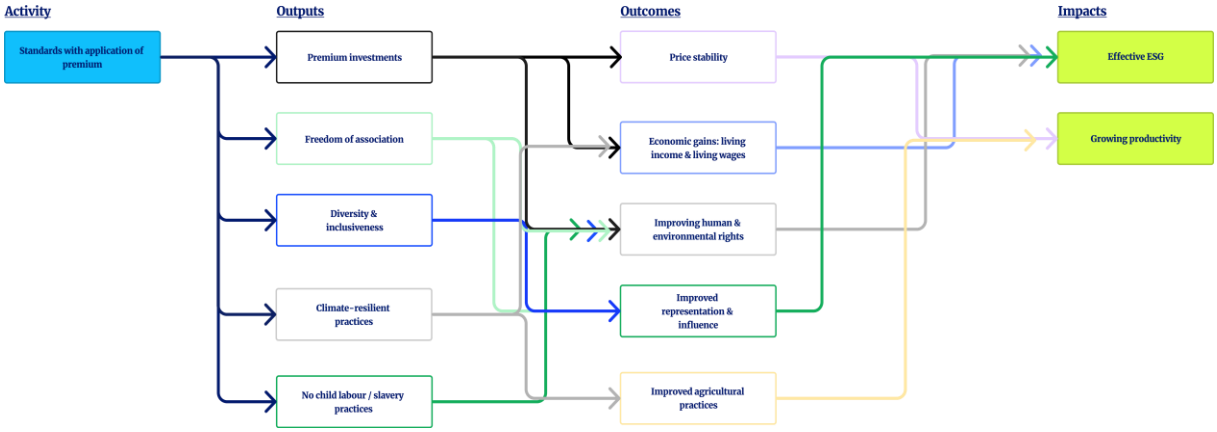

Figure 4: Elaboration of Barry Callebaut theory of change

Barry Callebaut presents a theory of change (Figure 4) which resembles the one of Fairtrade, therefore the previously explained cause-effect relationships will not be reiterated. Moreover, as previously mentioned, the assumptions are kept equals among the various theory of change displayed. Concerning the outputs, the analysis raises doubts about whether climate-resilient practices can actually be achieved based on the standards that the processor is currently applying. While the assumption that farmers are effectively implementing the standards holds, the coding system analysis reveals that the environmental standards in place are mostly voluntary (Appendix 3). This suggests that the company is only lightly committed to proactively improving environmental sustainability with mandatory measures, and it also raises doubts about whether there will be effective implementation and development of resilient agriculture practices in the upcoming coming years. Moving to the impact cluster, Barry Callebaut's logic states that in order to enhance farmers' productivity, it is necessary to improve their agricultural practices and ensure price stability (Barry Callebaut n.d.-b). This result displays one of the main objectives of Cocoa Horizon's program and, more in general, of the company's strategy. Barry Callebaut, being a cocoa processor, is primarily concerned with maximizing profits, which in turn requires a consistent and adequate supply of cocoa. As a result, improving cocoa productivity is a top priority. However, as noted earlier, it is

unlikely that this goal will be achieved through environmentally sustainable practices alone without incorporating climate-resilient methods. Furthermore, it is necessary to assume that smallholder farmers have already attained a minimum income above the poverty line, as mentioned previously, to ensure that they can allocate the premiums towards improving their land productivity. Secondly, having in place effective environmental, social and governance (ESG) factors, is another essential pillar in the strategy of Barry Callebaut (Barry Callebaut n.d.-c). Precisely, given the previous comments on the environmental standards applied by the company, it appears that the main focus is on social goals. Specifically, through the analysis of the standards it seems the processors plays an active role to improve human rights and labor conditions (Appendix 2). However, when analyzing each requirement, it becomes evident that most of them are required by international organizations (e.g. ILO, United Nation ecc.). Therefore, the added value provided by the company is minimal.

5.3 Mondelez International evaluation

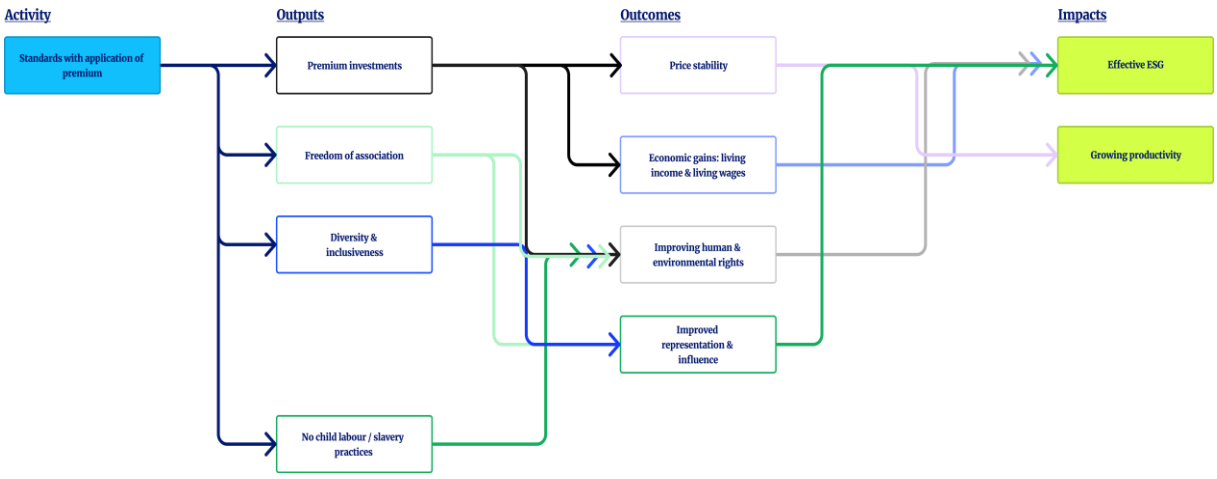

Figure 5: Elaboration of Mondelez theory of change

The theory of change for Mondelez (Figure 5) is almost equal to Barry Callebaut' one and it represents a unique case for the nature of its standards. The standards applied in order to generate the intended impact are all coming from Mondelez' supplier code of conduct. No document is available regarding specific standards applied to cocoa through Cocoa life

program. Specifically, they aim to implement and safeguard premium investments, freedom of association, diversity and inclusivity and absence of child labor (Mondelez International 2022). Mondelez has indeed no standards which are set to improve the environmental practices, scoring 0 for both environmental mandatory and voluntary requirements (Appendix 3). As a result, it is doubtful whether Mondelez can achieve increasing productivity solely through the investment of premiums in projects aimed at enhancing land productivity. Additionally, there may be concerns regarding the environmental objectives outlined in Mondelez's ESG framework, as the company does not seem to require any specific environmental practices through its implementation of standards (Mondelez International n.d.). In terms of the social outputs, it can be observed that Mondelez International, like Barry Callebaut, does not appear to have a proactive approach towards establishing standards that would enable it to achieve noteworthy ESG outcomes that go beyond mere compliance with mandatory regulations. The company's supplier code of conduct sets minimum standards that only barely meet legal requirements. For example, on the issue of living income, Mondelez states that it will "meet or exceed legal requirements for working compensation" (Mondelez International 2022) (Appendix 2). This suggests that the company does not offer specific guidance on how to improve the current status quo beyond what is already legally mandated.

5.4 Similarities & Differences

This part of the analysis focuses on identifying and comparing the similarities and differences among the selected certification systems in terms of their set standards, areas of focus, outputs, outcomes, and impacts, as well as to explore possible links with the players' positions in the cocoa supply chain.

5.4.1 Standards and area of focus

As it has already been possible to visualize through the analysis of each certification system implemented by the selected players, the areas of focus and the modality of appliance vary significantly. Focusing on each area, starting with the economic one, all the players set the price premium as well as requirements related the transparency of the wage contracts. Barry and Mondelez, on the contrary of Fairtrade, do not set any minimum price guarantee. Regarding the other standards provided in the economic area, Fairtrade is the only one that attempts on implementing voluntary provisions in order to improve living income in Cote d'Ivoire and Ghana (Appendix 2). Specifically, the fact that Fairtrade activates some standards just in particular countries demonstrates its knowledge on the territories affected the most by unhuman and environmentally damaging practices. Barry Callebaut and Mondelez lack of voluntary requirements, as well as mandatory ones, shades a light on the low commitment of the companies in changing farmers' welfare. With respect to environmental standards, Mondelez is the only player which does not set any mandatory or voluntary requirements. Barry Callebaut focuses its standards on the sections related to practices which can enhance soil productivity, such as use of pesticides, waste management and protection of biodiversity and therefore the productivity of the soil in general. Fairtrade doubles the number the environmental mandatory requirements of Barry Callebaut, but the non-profit and the processor have an equal number of voluntary standards set. Both the organizations indeed use more voluntary requirements than mandatory ones, highlighting a position on devoting greater consideration to environmental challenges in a future and development perspective (Appendix 3). Eventually, considering the social standards, all the players implement requirements aimed to enhance human rights. Barry Callebaut and Mondelez adhere to the mandatory requirements mandated by international organizations, while Barry Callebaut also implements an additional 4 voluntary standards. In contrast, Fairtrade builds upon these standards by increasing the number of standards, amounted the mandatory ones to 10 and the voluntary

ones to 13 (Appendix 3). Contrary to the environmental area, where there were no mandatory requirements placed by binding regulations, in the social area each player at least implements the social standards mandated by international organizations (e.g. United Nations, ILO). Therefore, the fact that Barry Callebaut and Mondelez comply with these requirements does not mean that they actively promote the enhancement of social standards, as they are simply meeting current legal obligations. On the contrary it shows the lack of commitment from these companies to go beyond what is already set by regulations and promote an active enhancement of the status quo.

5.4.2 Outputs and outcomes

It is worth noticing how the implementation of different standards but in the same areas (economic, environmental, social), generates similar outputs and outcomes in the theories of change examined. However, one notable difference identified among the certification systems analyzed pertains to the absence of the output "trust and transparency" in the outputs of Barry Callebaut and Mondelez, in contrast to Fairtrade. This divergence reflects the distinct goals pursued by the companies. While Fairtrade aims to challenge prevailing market practices and regulations, Barry Callebaut and Mondelez prioritize maintaining existing structures. Concealing unethical practices, while showcasing impressive ESG achievements, allow these companies to reach greater sales. This is exemplified by Mondelez's promotion of "sustainably sourced ingredients" without implementing standards specifically geared towards improving environmental practices (Mondelez International n.d.).

5.4.3 Impacts

Moving from similar outcomes, each player shapes its final impact differently, depending on its position on the supply chain, leading to the development of unique strategies with varying scopes. Fairtrade’s focus, as a non-governmental organization, is on empowering smallholder

farmers and helping them to improve their standards of living, thereby breaking the poverty cycle (Fairtrade n.d.-c). Fairtrade recognizes the value of sustainable practices for long-term cocoa production and places equal emphasis on the social and environmental aspects of cocoa farming. The ultimate objective of Fairtrade is to establish an informed market where consumers pay fair prices that accurately reflect the true worth of the products and farmers use ethical and environmentally sustainable practices. By doing this, Fairtrade aspires to eventually lead a change in companies' practices, as well as governmental policies, which could bring to the creation of fairer trade. Barry Callebaut, as a processor positioned in the middle of cocoa supply chain, has two main scopes. The first one concerns the raw material, indeed, to make revenues the company needs to sell the processed cocoa. This is the reason why increasing productivity is a core element at the base of Barry Callebaut scheme. The environmental practices activated by the actor are indeed above all aimed to guarantee and increase productivity, rather than support environmental sustainability. The second objective is related to its relationship with the confectionary industry. Being one of the biggest processors in the market, it is crucial for Barry Callebaut to differentiate itself and offer the desired product to its customers. By developing an in-house certification, the company can establish a unique position, defining its own standards and providing the confectionary industry with a product for which it has complete control over its sourcing. The processor focuses on key ESG (Environmental, Social, and Governance) claims such as "sustainable, resilient livelihoods", "decent work", "gender equity and social inclusion", which are essential to gain further market share as these requirements are demanded by end customers further down the supply chain. Likewise, for Mondelez it is important that the product is available in line with the market demand. The confectionary company however is positioned one step further in the supply chain compared to processors, therefore it has both the possibility to completely rely on processors procurement and sustainable initiatives or acting

independently. Mondelez at the moment is exactly in the middle of these sides. It has indeed developed its own program but it mass balances the cocoa derived from Cocoa Life program with the one procured by the processor. In this way, the company can at the moment rely on the processors' efforts to increase productivity through the appliance of their environmental standards, while developing its own program and reserve essential resources to other practices. Furthermore, on the other side of the chain, it aims to attract customers through its ESG commitment. By developing its own certification systems and being closer to the end customer, the confectionary industry can market and differentiate itself as socially and environmentally responsible, even if its standards are not as rigorous as those set by third-party organizations. The possibility for each player to develop an in-house program is therefore an essential tool of flexibility in terms of both costs management and differentiation.

6 Limitations

The paper attempted to build and shape a theory of change for the selected organizations, which outlines how their activities and interventions lead to specific intended impact. However, a key challenge was the lack of information on the standards set by some companies, specifically Barry Callebaut and Mondelez. This could have resulted in a biased or incomplete theory of change, as it relied heavily on the information provided by stakeholders and research. The World Benchmark has indeed pointed out as well that Mondelez "should release more data - lacks transparency" (World Benchmarking Alliance 2022). Furthermore, the theory of change assumes causal relationship between the different components, namely standards activated, outputs, outcomes, and impact. The core elements have been retrieved from an accurate analysis of the literature review, as well as players' statements. However, it can be questioned whether some causal links effectively hold in any circumstances. For instance, it's possible that there may be correlations between different factors rather than direct causal relationships, which would affect the accuracy of the theory

of change developed. Moreover, the theories of change developed are based on identified assumptions, and it is uncertain whether these theories hold true if these assumptions do not materialize. Specifically, the theories of change that have been developed are project-based and they only take into account as activity the standards outlined in each player's certification system, and do not consider the other initiatives promoted by these players. Therefore, the theories of change focus solely on the specific impact that the standards are intended to have, and do not take into account the broader impact of the company's other initiatives and actions. Lastly, the theory of change serves as a theoretical representation of the actual impact intended by the companies. However, it is important to note that the effectiveness of the theory of change in achieving its results is not evaluated. Particularly, the number of standards set for each area can be a useful indicator of the level of interest and attention given to that area, but they do not necessarily correlate with the effectiveness of their implementation in practice. A comprehensive analysis of the standards, including their implementation, monitoring, and final evaluation, would be necessary to accurately evaluate their impact. Such analysis would need a treatment and a control group, meant to assess the methods used to implement the standards, as well as the monitoring and evaluation processes. Without this level of detail, it is difficult to accurately determine the true effectiveness of the theory of change in achieving its intended goals in real life.

7 Conclusions and directions for further research

By applying the theory of change complemented by the coding system, it has become clear that different players in the cocoa industry, depending on their final intended goals, implement various standards, resulting in diverse outputs and outcomes. While Mondelez and Barry Callebaut show great similarities in their outputs, outcomes, and impacts, Fairtrade differs significantly. This is because Fairtrade, as an NGO, aims to improve the livelihoods of smallholder farmers and promote sustainable environmental practices, in line with the SDGs.

In contrast, the two companies have more private goals, directed at increasing profitability and enhancing their ESG image. The differences and similarities identified can thus be explained in light of the players' position in the cocoa supply chain. Specifically, the role each organization has in the supply chain defines its strategy and final goals, from which the standards are then formed. Developing in-house certification systems instead of joining NGOs schemes allows each company to have more flexibility in shaping its standards based on the intended aim. On the one hand, the possibility to implement diverse standards can promote innovation. On the other hand, as no clear definition of sustainable sourcing is set, it can lead to greenwashing, where anyone can develop a certification claiming sustainability without adhering to any specific and objective standards, posing a great danger, especially when consumers cannot distinguish between genuine and fake claims. Future research should extend the same methodology utilized in this study to other similar crops to explore whether the observed similarities and differences in cocoa supply chains are specific to that crop or also prevalent in other agricultural sectors. Furthermore, there is a pressing need for a comprehensive standardized examination of the effectiveness of certification systems in contributing to the attainment of the Sustainable Development Goals. This assessment entails monitoring distinct Key Performance Indicators (KPIs) within control and treatment groups, as well as various treatment groups with different certifications. It is crucial to emphasize that these experiments should be conducted within the same country and crop to prevent any potential biases. If private certification systems are found to be ineffective in this regard, it becomes crucial to identify alternative measures to prevent greenwashing and establish objectively measurable standards aimed at guaranteeing "sustainable sourcing".

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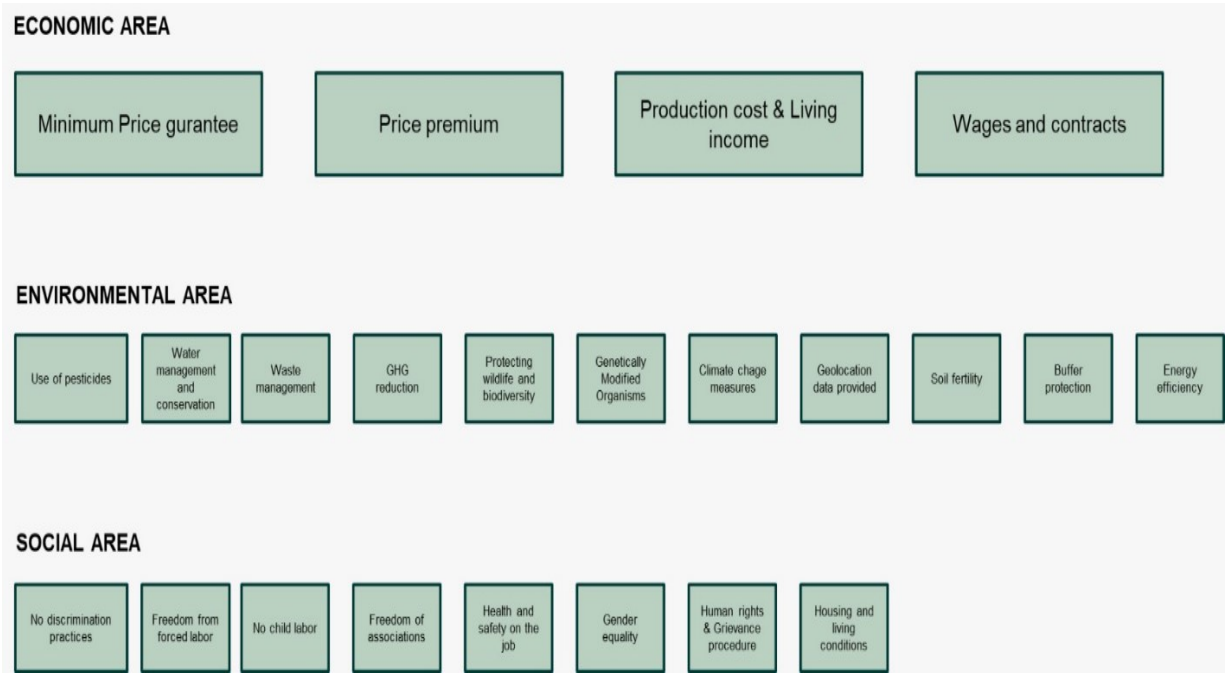
Appendix



Appendix 1

	Minimum price guaranteed	Price Premium	Production cost & Living Income	Wages and contract
FairTrade	$2400USD/MT (beans) (3)	$240USD/MT(beans) (3)	Collect household and farm data to assess the needs of member regarding sustainable farm improvements + *Develop and regularly review farm improvement plan with the members to increase the economics viability of the members' farm in a sustainable way (ex. adoption of agroforestry techniques, fertilizer application, diversification strategies) + *For Ghana and Cote d'Ivoire, implement a farm book system that supports the members to document farm income and production costs, enabling to improve farm yields and calculate net income + *For Ghana and Cote d'Ivoire book data to assess the net income against the living income benchmark of the country, assessing progress including yield/hectare + (all contries)*Support income resilience strategies including income diversification, giving specific attention to women and youth + (all countries)*Support members to analyse their production costs and ent income and provide training on finance and business management + *For Cote d'Ivoire and Ghana, determine the financing needs of your members and make efforts to meet their needs)documenting the interaction between members and financial organizations)(2)	Ensure that all permanent workers have a legally binding contract and are aware of their rights and duties, responsibilities, salaries, and work schedules as part of the legal labour contract + ensure that workers have a signed copy of their employment contract and that they understand the content by providing it in a format and language they understand + *gradually increase salaries above the regional average and the official minimum wage. The salaries are set for workers according to CBA regulation hwere they exist or at regional average wages or at official minimum wages for similar occupation(the highest). No discrimination in payments(2)
	Additional requirement for cocoa: For Cote d'Ivoire and Ghana, if minimum price above the market price, 100% of differential has to be transfered to members within 30 days + keep accountability of the transfer process + transparency of the sum transferred (which must be equal to the differential obtained) + support solutions to digitally record payments ex. third party data management tools + *deploy solutions that suport e-payments(4)	Additional requirement for cocoa: Report once a year on Fairtrade premium use via Fairinsight online platform(the report is the FairTrade Development Plan and will contain info for each FairTrade Premium project ex. name and description of project, target groups, project budget)(4)		
Mondelez Cocoa Life		**$70/80USD/MT** premium + **$154USD/MT** given by the other activities which Cocoa Life promotes (17)		
Berry Calleabaut				The Supplier operates in full compliance with applicable laws and regulations regarding wages, work hours, benefits and binding agreements, including overtime work, overtime premiums and other pay arrangements (35)

	Use of pesticides	Water management and conservation	Waste management	Greenhouse gases reduction	Protecting wildlife and biodiversity	Genetically Modified Organisms	Climate Change measures	Geolocation data	Soil fertility	Buffers	Energy efficiency
FairTrade	You compile a list of the pesticides that are used on Fairtrade crops and keep it updated. The list has the name of the active ingredients, commercial name, crop on which the pesticides are used and the targeted pests. You indicate which of those materials are in the Fairtrade International Hazardous Materials List (HML) Part 2 (Orange List) and Part 3 (Yellow List) (Certain pesticides(organic and non) allowed under: proper training, usage of protective equipment, awareness on the risks associated, 10m distance from human activity) + They must have appropriate storage, be far from children reach, clearly labelled, comply list of usage(which/when/where) + *No pesticides on buffer zones(2)	List sources of water used for irrigating and processing Fairtrade crops + *You are informed about the situation of the water sources in your area. In case water sources are being depleted, or in critical situation, you engage in dialogue with the authorities in order to identify possible ways to be involved in research or solution finding + *Your members follow practices that improve water resource management + *You handle waste water from central processing facilities in a manner that does not have a negative impact on water quality, soil fertility or food safety(2)	You ensure that your members keep their farms free of hazardous waste + *You and your members have designated areas for the storage and disposal of hazardous waste. In the absence of appropriate disposal facilities, small amounts of hazardous farm waste can be burned in a well-ventilated area away from people, animals or crops. You and your members may only burn hazardous waste if it is allowed by local regulation and all safety recommendations are followed + *You raise awareness among your members about re-using organic waste through the implementation of practices that allow nutrients to be recycled(2)	*You as an organization or your members take measures to reduce Green House Gas (GHG) emissions and increase carbon sequestration(2)	Avoid negative impact on protected areas(IUCN 2008) and areas with high conservation value(FSC definition)within or outside farm area. Do not cause deforestation(The Global Forest Resources Assessment (FAO) and do not destroy vegetation in protected areas + *There must be procedure in place to ensure members do not cause deforestation(ex. mapping, promoting agro-ecological practices) + *Protect and enhance biodiversity(raise awareness, agro-forestry systems) + *Raise awareness so that no hunting of threatened species(2)	Not allowed(2)	*Implementation of measures on adaptation to climate change(ex. rain water collection, soil cover application, crop diversification, pruning)		You identify land at risk of soil erosion and land that is already eroded in fields where your members plant Fairtrade crops + *You train those members of your organization where risk of soil erosion or already eroded land has been identified on practices that reduce and/or prevent soil erosion + *Your members implement measures to enhance soil fertility(2)	You and your members maintain buffer zones around bodies of water and watershed recharge areas and between production areas and areas of high conservation value, either protected or not. You do not apply pesticides, other hazardous chemicals and fertilizers in buffer zones(2)	*In central processing facilities where non-renewable energy is used, you take measures to use energy more efficiently. You replace non-renewable sources by renewable ones as far as possible(2)
					Additional requirement for cocoa: No deforestation or degradation in primary or secondary forests, protected areas and areas of High Conservation Value or High Carbon Storage. No production in designated buffer zones, except where it complies with applicable law + Assessment and monitoring of the risk of deforestation and degradation of the abovementioned forests when conducting environmental risk assessment(mapping relevant areas, geo location data, monitor members production practices - regularity of assessment based on risk) + *Usage of results of environmental risk assessment and monitoring on deforestation to create a plan to prevent and mitigate any deforestation/degradation of forests(4)			Additional requirement for cocoa: For Africa and Asia, geolocation data available for all members and farm operator units. Prioritization based upon risk of deforestation + Report data to Fair Trade International annually in the template provided(4)			
Mondelez Cocoa Life				2050 goal zero net Greenhouse gas emissions - at company level (13)		Mondelēz International considers various factors when deciding whether or not to use GM ingredients in individual countries. To ensure the safety of food and protect the environment, we support appropriate regulation of biotech crops in the field and GM ingredients in food. Mondelēz International complies with all local regulatory requirements in each country regarding the use and labeling of GM ingredients in food (13)		By the end of 2021, 198,088 of Cocoa Life registered farms in Ghana, Cote d'Ivoire, Indonesia, Dominican Republic and Brazil mapped (19)			
Barry Callebaut	Pesticides containing active ingredients classified "highly hazardous" by the FAO or banned by the European Union as specified by Annex I of Regulation 649/2012/EC (EC use limitation "b" = ban) are not used. WHO 1a CPPs: Active ingredients classified as WHO 1a, or listed in Montreal Protocol (this includes methyl bromide) or the Stockholm Convention on Persistent Organic Pollutants are NEVER used on the farm + *Development of Farm Business Plan(FBP) which should address implementation of requirements related to pesticides application (ex. on buffer zones) + *Pesticides waste is disposed appropriately and responsibly + A distance of at least 10 m to water bodies is kept when spraying agrochemicals. Farms with existing cocoa trees in this buffer zone may keep these, but agrochemicals shall not be applied within the buffer zone. The vegetation in the buffer zone shall not include plants that are detrimental to cocoa trees (36)	*Farmers are made aware of requirements for water protection(ex.waste water, pesticides, empty pesticide containers or other contaminants into fresh water bodies)(36)	*Farmers and workers are made aware of good waste management practices + *A waste management plan is implemented. Waste is disposed appropriately and responsibly: - in designated areas - No open-air burn of any waste is carried out by the farmer. - Inappropriate materials (such as untreated sewage, medical or veterinary waste, oil, CPPs, CPP packing or containers) are not disposed of on your land unless specifically allowed by law and it is safe to use the affected land for food production. - If there are national regulations for the safe disposal of different types of hazardous waste, these shall be complied with (36)	The Supplier actively manages its emissions, especially with regards to greenhouse gases. This includes efforts and strategies to measure and reduce the companies' emissions. The Supplier is publicly reporting on its greenhouse gas emissions, including emissions of upstream activities, in line with the GHG Protocol Corporate Accounting and Reporting Standard as well as its emissions of other hazardous substances and has set targets and strategies to reduce its overall climate impact. In order to do so, the Supplier is encouraged to engage in science-based target setting. Ideally, the Supplier is able to report the emissions intensity by product + Farmer groups report data / KPIs required for estimating carbon sequestration. Farmer groups are required to estimate sequestration and emissions of greenhouse gases from the farms + *Producers - farmer groups - communities will be encouraged and incentivized to take measures to reduce any net emissions of greenhouse gases from the management unit(35),(36)	[The Supplier conducts due diligence which combines biodiversity, carbon conservation and social considerations. The Supplier ensures that its operations do not directly contribute to deforestation or loss of biodiversity. The Supplier conducts due diligence on commodities associated with deforestation in its supply chain. Prior to establishing new operations or expanding existing ones, in addition to obtaining all legal concessions, the Supplier conducts due diligence which combines biodiversity, carbon conservation, and social considerations. The Supplier publicly commits to deforestation-free operations and supply chains, has systems in place to monitor compliance and progress of its supply chain with regards to this commitment and takes immediate actions in case of breaches] + *Farmers who acquire new fields or plant new cocoa plots are advised on the suitability of the intended field(s) for production of cocoa. Planting of new cocoa farms in the frame of a technological package offered to the farmer group shall be subject to approval by the farmer group (e.g. cooperative) + No farming activities take place in national parks, wildlife refuges, forestry reserves, buffer zones, water bodies and other public or private conservation areas. No NEW planting (conversion to agriculture) or draining on tropical peat soils (of any depth). The conversion of High Conservation Value/High Ecological Value/High Carbon Stock areas (forests, grasslands or wetlands) to farmland is prohibited. All natural ecosystems are conserved. Forested land may not have been converted to non-forested land in the five-year period prior to the start of the process or after January 1, 2005, whichever date is earlier + *Threatened and endangered species in the production area are identified. An ecosystem and wild life protection plan is developed, which defines the biodiversity conservation areas, buffer zones and wild life corridors. This plan is developed in consultation with the local communities. Implementation of the plan and the impact of farming activities on biodiversity and wild life are monitored at least every 3 years. The management plan is adapted if necessary for improvement + *Farmers are encouraged to plant forest tree species, timber trees, fruit trees and shrubs by use of diverse and native tree species. Farmers are aware of the importance of shade trees. Shade trees are planted on the farms where necessary and feasible. Producers are not allowed to introduce or plant invasive alien species on their farms (35),(36)	Farmers are supported to get access to cocoa plant material that comes from a verified, competent source and receive recommendations for its use. General prohibition of usage of GMOs (36)	*The Supplier minimizes its negative impacts on the environment, particularly on climate and biodiversity and implements measures to protect soil and water bodies. The Supplier uses natural resources sustainably. In order to identify, manage and mitigate environmental impacts, and to document compliance and continuous improvement, the supplier implements an internationally recognized environmental management system. The Supplier sets and publicly communicates targets in the domain of environmental protection. The Supplier implements relevant measures, and among others actively applies better production processes and technologies in order to reduce its environmental impact. The Supplier engages in research and development of more environmentally friendly products or services. The Supplier shares best practice with its suppliers and implements measures to reduce environmental impact throughout its entire supply chain (35)	For each cocoa farm registered, number and location of cocoa fields is provided(using the most effective form of measurement available to the organization according to national practices) (36)	*The recommendations that the FBP makes for the farmer respect the requirements in this standard. Thus the recommendations of the FBP also should address: -Requirements related to soil management, including practices to avoid soil erosion by using soil conservation techniques and including minimizing run-off and siltation of watercourses (36)	A buffer zone of native vegetation is kept along the borders of seasonal and permanent water bodies to reduce erosion, limit contamination from pesticides and fertilizers, and protect wildlife habitats. Farms with existing cocoa trees in this buffer zone may keep these. The vegetation in the buffer zone shall not include plants that are detrimental to cocoa trees (36)	*The use of renewable energy on farms should be increased, where it is available and affordable (36)

Appendix 2

	No discrimination practices	Freedom from forced labour or compulsary labour	Child labour	Freedom of associations	Health and safety on the job	Gender equality	Human Rights - Grievance procedure	Housing and living conditions
FairTrade	No discrimination practices allowed, according to ILO Convention 111. No test for precnancy/HIV/genetic disorders before hiring. No discrimination against member based on Universal Declaration of Human Rights + *Identify disadvantaged groups(2)	You and your memebers do not directly or indirectly engage in forced labour, including slave, bonded or involuntary prison labour. You explain this to all workers + If you have identified cases of forced adult labour in you organization, you and your memebers remediate to ensure prolonged safety and implement relevant policies and procedures to prevent vulnerable adults above thage of 18 yo from being employed in abusive, exploitative and unaccetable work condifioons as defined by ILO Conventions 29 and 105 + You and your memebers do not make the employment of a worker or an offer of housing conditional on the employment of their spouse. Spouses have the right to work elsewhere(2)	You and your memebers do not employ children below the age of 15 or under the age defined by the local law, whichever is higher(ILO Convention 138 and 182) + Your memebers childen below 15 yo are allowed to help your memeber on the farm under strict conditions: you ensure that they only work after school or during holidays, the work they do is appropriate for their age and physical condition, they do not work long hours and/or under dangerous or exploitative conditions and their parents or guardians supervise and guide them + You and your memeebrs do not submit workers of less than 18 yo to the unconditional worst forms of child labour or to any type of work which, by its nature or the circumstances under which is carried out, is likely to jeopardize their health, safety, morals or their school attendance + If in the past you or your members have employed children under 15 or any type of work, or children under 18 for dangerous or exploitative work, you ensure that those children do not enter or are not at risk of entering into even worse forms of labour including hazardous work, slave-like practices, recruitment into armed conflict, sex work, trafficking for labour purposes and/or illicit activities. Any action you take respects the UN Convention on the rights of the child (CRC) protective framework + *If you have identified child labour as a risk in your organization you and your memebers implement relevant policies and procedures to prevent children below the age of 18 from being employed in dangerous or exploitative work(2)	Yes. No discrimination against unionised workers. Workers are encouraged to democratically elect a workers organization + *Train workers to improve awarness about workers' rights and duties(2)	You and your members make work processes, workplaces, machinery and equipment on your production site safe. You have accessible first aid boxes and equipment and a sufficient number of people trained in first aid ain the workplace at all times. Clean toilets are provided with hand washing facilities close by for workers and clean showers for workers who use pesticides + *You and your members improve health and safety conditions by: putting up warning signs that identify risk areas and potential hazards in local languages and including pictograms if possible; providing information to workers about safety instructions and procedures including accident prevention and response; putting safety devices on all hazardous machinery and equipment and protective guards over moving parts; providing safety equipment to all workers who perform hazardous tasks and instructing and monitoring workers on its proper use; storing equipment safely for chemical spraying (2)	*You develop and implement a gender policy. You ensure members are aware of this policy and its content. You ensure women are involved in the implementation of the policy (2)		*You ensure that workers also benefit from the Fairtrade Premium through at least one activity in your Faritrade Development Plan (ex. Any action that is directed at improving their living conditions) (2)
	Additional requirement for cocoa: For Asia and Africa, written signed commitment to respect Human Rights(based on United Nations Guiding Principles on Businesses and Human Rights) + *Inform and educate key stakeholders to raise awareness on human rights(process, not one time event)(4)		Additional requirement for cocoa: *For Africa and Asia, implement a monitoring and remediation system to regularly check for and respond to cases of child labor and forced labor, and facilitate remediation of any case(it contains the elements and procedures of "Monitoring and Remediation System Guidelines") + *For Cote d'Ivoire and Ghana promote school attendance of all children, including the children of staff members, farm operators and workers + *Assess the root causes of lack of school attendance(ec. lack of school facilities) and select at least one activity annually to mitigate these obstacles + *Actively promote decent employment of youth with implementation of at least one activity annually to encourage participation and development of young people(4)				Additional requirement for cocoa: *For Africa and Asia: Conduct a human rights and environmental risk assessment at least every 3 years(map all the risks and challenges, engage with farmers, prioritize and assess 3 challenges), identify and focus on the most vulnerable groups that could be impacted + *Grievance procedure in place allowing to anonymously raise complaint of ijustice, harm or fraud linked to the organization + *Develop and implement policies and procedures to mitigate prevent and remediate the 3 most serious human rights and environmental risks identified(annual revision)(4)	
Mondelez	All suppliers foster inclusive and etical environment that is free of harassement and discrimination practices (13), (20)	All suppliers are expected to never use foced labour(ILO 13) (20)	All suppliers are expected never make use of child labour(ILO). (In Côte d'Ivoire and Ghana e.g. working with local authorities and partners to roll out community-based Child Labor Monitoring and Remediation Systems (CLMRS)) (13), (20)	All suppliers respect employees' rights to organize and bargain collectively, as well as raise concerns without fear of retaliation (13), (20)	Consistently reinforce our safety policy, which outlines our beliefs and commitments: All accidents and injuries are unacceptable, and we strive to eliminate all incidents, Safety and health improvement is an individual and team responsibility, Each team member must be dedicated to conducting all activities with the highest concern for employee safety and health. Each team member should participate in a local safety program and actively seek to achieve an accident/injury free work environment (13)			
Berry Callebaut	[The Supplier will not discriminate based on a person's race, gender, age, nationality, marital status, ethnic origin, religion, sexual orientation, membership in trade unions or other worker organizations or political affiliation. The Supplier will hire, compensate, promote, discipline, and provide other benefits or conditions of employment based on an individual's performance and ability to do the job] + (ILO 111)The principle of non-discrimination and the rights of the individual are respected and initiatives are taken to contribute to the elimination of discrimination if observed, including, but not limited to, discrimination on the basis of race, color, gender, personal relationships, disability, marital status, age, HIV/AIDS status, religion, political opinion, language, property, nationality, ethnicity, or social origin. Both women and men within the organization and on the farms are aware of gender-related issues, using best practice approaches. An organizational processes is established and maintained to ensure non-discrimination of the hiring and selection of all staff, including, but not limited to, discrimination on the basis of race, color, gender, personal relationships, disability, health, marital status, age, HIV/AIDS status, religion, political opinion, language, property, nationality, ethnicity, or social origin (35),(36)	[All employment must be freely chosen. Forced, bonded, indentured labor and any other form of slavery or human trafficking are prohibited. This includes that the Supplier ensures that throughout the hiring process no monetary deposits or legal documents such as original identification documents are collected from employees and also abstains from any other activity that creates involuntary dependency. The Supplier furthermore ensures that the workers' freedom of movement does not get restricted in any way and that workers are free to leave the premises. Involuntary prison labor is not to be used. All work will be voluntary, and workers must be free to leave upon giving reasonable notice] + No worker is employed by force or compulsion(ILO 29 and 105) (35), (36)	[The Supplier does not recruit or engage the use of child labor and respects and realizes the principles of ILO Convention No. 138, on the minimum age for admission to employment and work, and ILO Convention No. 182, on the worst forms of child labor. When employing workers below the age of 18, the Supplier demonstrates that the employment of young workers does not expose them to undue physical risks that can harm physical, mental or emotional development. The supplier has implemented management systems to monitor and address the risk of child labor in its supply chains. When cases of child labor are identified, the Supplier takes responsible remediation measures. The supplier immediately removes the child from the situation causing harm, ensuring that such measures do not worsen the wellbeing of the affected child and its dependents. Additionally, the Supplier should engage with local governments, NGOs and other stakeholders in order to address the underlying issues of child labor prevalence] + Each registered farmer prepares an inventory of all agricultural workers on his/her farm, including regular hired workers, seasonal, subcontracted, migrant and family labor. Sex and age of workers should be recorded. Under no circumstances will a farm employ individuals under the age of 15 or under the local legal minimum age for work or mandatory schooling + A risk assessment is made identifying the possible risks related to child labor in the organization and in the communities where its members live. Based on the risk inventory, actions are undertaken to prevent, identify, monitor and remediate child labor and the worst forms of child labor related to the activities of the organization and its members. The frequency of monitoring shall be based on the risk inventory, and specified in the child labor policy, and shall take place at household and farm level, using best practice approaches. Suspected cases of conditional worst forms of child labor (hazardous work) are identified and a remediation plan is developed and implemented. Suspected cases of unconditional worst forms of child labor (including child trafficking, bonded labor, and slave labor) are immediately reported to the relevant authorities + *Education and school attendance for all children and vocational training for children of a legal working age are actively promoted (35), (36)	[The Supplier respects the legal rights of employees, as applicable, to join or to refrain from joining worker organizations of their choice, including trade unions, and to bargain collectively] + Agricultural workers and employees of the organization have the right to freely organize into associations and farmer groups + There is no obstruction to the right of rural workers and farmers to voluntarily negotiate by means of collective agreements with employers, employers' organizations, buyers, and other institutions or associations, with a view to the regulation of terms and conditions of employment and/or other financial and non-financial benefits (35), (36)	[The Supplier provides employees with a safe and healthy workplace in compliance with all applicable laws and regulations. Adequate steps are taken to prevent accidents and injury to health in the course of work, by minimizing the causes of hazards inherent in the work environment. The Supplier protects employees from exposure to hazardous materials and provides personal protective equipment to workers where required free of charge. All facilities provided for use by employees, including dormitories, are clean and safe. In addition, the Supplier provides employees with access to potable water and clean sanitation facilities. The Supplier also ensures emergency preparedness, including adequate provision, signage and communication of emergency exits and procedures. Employees are regularly trained to ensure they are adequately protected] +* An action plan is made to address the issues identified in the inventory on occupational health and safety. The action plan ensures that there is access to First Aid sufficient to respond to emergencies. Injury, emergencies, fire, noise and dust are addressed + Agricultural workers are informed about and protected against occupational health and safety risks in their agricultural work. This information is provided clearly and visibly in the working environment of the organization, in a language they understand and with pictograms. Health and safety competence of agricultural workers operating in hazardous conditions is assured.. Necessary protective equipment is provided to the Farmer Group's employees free of charge (35)	*An inventory of gender-related issues is made. Both women and men within the organization and on the farms are aware of gender-related issues, using best practice approaches (36)	An action plan is implemented to eradicate all forms of harassment and abuse, including a gender sensitive grievance procedure incorporating equal access for men and women. Within the grievance procedure there is no retribution or punishment for reporting an injustice (36)	

		Minimum price guaranteed	Price Premium	Production cost & Living Income	Wages and contract	Total per method	Total
FairTrade	Mandatory	1	1	0	2	4	10
	Voluntary	0	0	5	1	6	
Mondelez	Mandatory	0	1	0	1	2	2
	Voluntary	0	0	0	0	0	
Berry-Callebaut	Mandatory	0	1	0	2	3	3
	Voluntary	0	0	0	0	0	

		Use of pesticides	Water management and conservation	Waste management	Greenhouse gases reduction	Protecting wildlife and biodiversity	Genetically Modified Organisms	Climate Change masures	Geolocation data	Soil fertility	Buffers	Energy efficiency	Total per method	Total
FairTrade	Mandatory	2	1	1	0	2	1	0	2	1	1	0	11	24
	Voluntary	1	3	2	1	2	0	1	0	2	0	1	13	
Mondelez	Mandatory	0	0	0	0	0	0	0	0	0	0	0	0	0
	Voluntary	0	0	0	0	0	0	0	0	0	0	0	0	
Berry-Callebaut	Mandatory	1	0	0	1	1	1	0	1	0	1	0	6	19
	Voluntary	3	1	2	1	3	0	1	0	1	0	1	13	

		No discrimination practices	Freedom from forced labour or compulsary labour	Child labour	Freedom of associations	Health and safety on the job	Gender equality	Human Rights - Grievance procedure	Housing and living conditions	Total per method	Total
FairTrade	Mandatory	1	3	4	1	1	0	0	0	10	23
	Voluntary	1	0	5	1	1	1	3	1	13	
Mondelez	Mandatory	1	1	1	1	1	0	0	0	5	5
	Voluntary	0	0	0	0	0	0	0	0	0	
Berry-Callebaut	Mandatory	1	1	2	1	1	0	0	0	6	10
	Voluntary	0	0	1	0	1	1	1	0	4	

Appendix 3