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Benefits and Barriers of Introducing Fairtrade Certification for Cocoa Farmers in Indonesia

Comparing Fairtrade with Current Certification Schemes UTZ and Rainforest Alliance

Photo: R. Jermann

Essay on Development Policy

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Table of contents

List of Figures

List of Tables

1. Introduction

Indonesia is the third largest producer of cocoa worldwide after Ivory Coast and Ghana (Potts, Lynch, Wilkings, Huppe, Cunningham & Voora, 2014). In Indonesia, cocoa provides the main source of income for more than one million smallholder farmers (Cocoa Sustainability Partnership, 2013). The largest development project in the Indonesian cocoa sector is the Sustainable Cocoa Production Program (SCPP), implemented by the Swiss foundation for technical cooperation Swisscontact. The SCPP (2015a) estimates that approximately half of its 60'000 targeted farmers live below the international poverty line of 2.5 dollars per day. Volatile cocoa prices as well as declining farm productivity put Indonesian farmers in a challenging situation. Ultimately these obstacles pose a threat for the Indonesian cocoa production by discouraging new generations from growing cocoa. Besides the economic difficulties farmers face, inadequate safety conditions (social dimension) and environmentally harmful farming practices (environmental dimension) characterize the Indonesian cocoa sector.

The end consumers of chocolate products are more and more aware of these challenges and are demanding cocoa products that have been produced in a sustainable way (Bethge, 2014). Hand in hand goes the demand for transparency and product traceability. As a result, international brands are increasingly under pressure to source sustainable products, as well as to provide information about their supply chains, including full traceability of the cocoa they use in chocolate products (Kuit & Waarts, 2014). It will come as no surprise that mayor players in the cocoa industry, such as Mars, have formulated sustainable sourcing commitments until 2020. One way to keep their promises is to use external certification labels. On an international level already 22% of the cocoa production is certified by the four labels UTZ, Rainforest Alliance, Fairtrade, and Organic. In contrast, only 10% of the cocoa production is certified in Indonesia, whereby private companies work with the two labels UTZ and Rainforest Alliance (Potts et al., 2014).

Therefore, the SCPP sees a large potential in scaling up certification in the Indonesian cocoa sector. The program is also aware that other internationally relevant labels for cocoa, such as Fairtrade, could enter the Indonesian cocoa market in the future. Against this background, this essay analyses the impact of the current certification schemes in Indonesia (UTZ and Rainforest Alliance), and elaborates benefits and barriers of introducing the new certification label Fairtrade in Indonesia. The research questions as well as the methods are described in chapter 2. Chapter 3 gives an overview of the cocoa production in Indonesia and its challenges, and chapter 4 compares certification standards for cocoa. Chapter 5 describes the implementation and impact of the current certification schemes UTZ and Rainforest Alliance in Indonesia, chapter 6 discusses the benefits and barriers of introducing Fairtrade certification in Indonesia, and chapter 7 concludes the essay.

2. Research questions and methods

According to the structure mentioned above this study aims at answering the following research questions:

1. What are the economic, social, and environmental challenges for cocoa farmers in Indonesia?
2. What is the potential of the already implemented certification labels, UTZ and Rainforest Alliance, in tackling current challenges in the Indonesian cocoa sector?
3. What are specifically benefits and barriers of introducing Fairtrade certification for the Indonesian cocoa production?

The reason why the current certification schemes in Indonesia, UTZ and Rainforest Alliance, are assessed in detail is to understand what benefits certification already provides to the Indonesian cocoa sector. These benefits are then compared with benefits that Fairtrade could bring about. The idea is to find out what added value Fairtrade certification could provide additionally to the current labels in Indonesia.

The study is mainly based on a literature review. Due to the rising importance of certification labels worldwide, this topic has received broad attention in the literature. Mostly certification labels, governmental and non-governmental organizations, universities, and consulting firms analyzed the impact of sustainability certification on the living conditions of farmers. These studies mainly focus on well-established crops such as coffee (Kuit & Waarts, 2014). Far less literature can be found on certified cocoa and most analyze cocoa production in the two main producing countries Ivory Coast and Ghana. Indonesia as the third largest producer of cocoa is hardly covered by the literature.

In order to analyze the literature, the concept of sustainable development is used as a tool to screen and organize the relevant content according to the three main dimensions of sustainable development: The economic, social, and environmental dimension (United Nations, 1987). In the context of developing countries, the economic dimension mainly refers to poverty alleviation, the social dimension relates to basic services but also working conditions, and the environmental dimension refers to the use of resources and materials (Bethge, 2014).

Specifically, the concept was used to filter the economic, social and environmental challenges that the Indonesian cocoa sector face. Moreover, the impact of the different labels on the living conditions of the farmers were structured according to the three dimensions. The concept of sustainable development not only helped to analyze the literature, but also to examine the three standards UTZ, Rainforest Alliance and Fairtrade. The different requirements of the standards were attributed to the three dimensions of sustainable development. Net diagrams were created In order to visualize the content-wise focus of the standards.

3. Cocoa production in Indonesia

Indonesia is the third largest producer of cocoa after Ivory Coast and Ghana. Indonesia's market share is around 11%, whereas West Africa covers around 58% of global cocoa production (Potts et al., 2014). Cocoa in Indonesia is mainly grown by smallholder farmers (with on average one hectare per farmer), and provides the main source of income for more than one million farmers (Cocoa Sustainability Partnership, 2013).

When looking at the planted areas by smallholders in Indonesia, cocoa is the fourth important crop after palm oil, coconut, and rubber, covering around 1.6 million hectares. The largest cocoa production area is concentrated on the island of Sulawesi that belongs to Indonesia (see figure 1 below). Cocoa is also produced on the islands of Sumatra, Java and Papua (Statistics Indonesia, 2015).

Figure 1: Map of Indonesia (VredesEilanden Country Offices [VECO], 2011)

The International Cocoa Organization (ICCO, 2016a) forecasts that Indonesia will produce around 300'000 tons of cocoa in the years 2015/2016. Only a few large private companies, such as Nestlé, Mars, Barry Callebaut, and Cargill, buy, process, or export Indonesian cocoa. It is mainly exported to the neighboring countries Malaysia and Singapore, but also to India and Thailand (Statistics Indonesia, 2015). The exports generate an income of around 1.2 billion dollars per year (VredesEilanden Country Offices [VECO], 2011).

3.1. Economic factors

The SCPP (2015a) estimates that around 7% of the 60'000 targeted farmers earn below the international poverty line of 1.25 dollars per day, and around 47% below the international poverty line of 2.5 dollars per day. Three important factors that influence the income of cocoa farmers are described in the following sections.

First, when looking at the Indonesian market, smallholder farmers face declining farm productivity (VECO, 2011). There are two main reasons for this. On the one hand, most cocoa trees were planted in the 1990s during the Indonesian cocoa boom, and have not been replanted yet. The old trees attract pest and diseases, which leads to smaller yields (SCPP, 2015a). On the

other hand, cocoa farmers have a low knowhow on good agricultural practices such as proper planting material, pruning, harvesting and, fertilizer application. A multi-stakeholder forum in Indonesia, called Cocoa Sustainability Partnership (2013), believes that the implementation of good agricultural practices on cocoa farms could significantly increase yields.

Second, from a macro perspective, world market prices for cocoa are characterized as volatile. Short-term fluctuations of prices are mainly influenced by weather conditions, whereby the price falls in periods with favorable weather conditions, and the price rises in periods with unfavorable weather conditions (i.e. extreme wet or dry weather) (Fairtrade Foundation, 2011). Moreover, smallholder farmers only receive a tiny share of the world market prices. Potts et al. (2014) estimate the share to be around 40%, and sees the reason for this small share in the large concentration of powerful companies within the cocoa supply chain.

Third, formal farmer organizations organized into cooperatives are rare in Indonesia (Sa'danoer, 2015). One of the reasons is that cooperatives have historically had a bad reputation in Indonesia because they mainly acted as agents serving the central government programs. Furthermore, the transformation of "lead farmers" or "small traders" into sound board managers is a major challenge (Lyssens, 2015). For these reasons, cooperatives are often not viewed as an instrument to improve the economic situation of their members (Suradisastra, 2006). Nevertheless, SCPP and other NGOs strongly support the formation of cooperatives because they believe that well-organized cooperatives can enhance farmers' bargaining power and offer relevant services (such as credits) to theirs members (Sa'danoer, 2015).

3.2. Social factors

One of the reasons, why certified cocoa gained momentum on an international level were published reports by different UN agencies in the late 1990s on the widespread use of child labor in cocoa production (Kuit & Waarts, 2014). The focus of those reports, but also of current studies, is child labor in West African countries (Fairtrade Foundation, 2011; KPMG, 2012; Ingram, Waarts, Ge, van Vugt, Wegner, Puister-Jansen, Ruf & Tanoh, 2014; Ryan, 2011; Tulane University, 2011). Indonesia is not specifically mentioned in these reports. However, a broad study conducted by Statistics Indonesia and the International Labor Organization (2009) assumes that there are around 1.76 million child laborers aged between 5 and 17 in Indonesia. More than 50% of these children work in the agriculture sector. A number on how many children are working specifically on cocoa farms in Indonesia does not exist. But based on the studies mentioned above it is fair to assume that child labor in the Indonesian cocoa sector is a critical topic. Another concern from a social perspective is the safety on cocoa farms. A study conducted by the SCPP (2015b) found that only 10% of the targeted farmers use protective clothes when spraying the farm with pesticides, negatively affecting the health of the farmers. Protective clothes are i.e. boots, gloves, masks and glasses.

According to the human development report, conducted by the United Nations Development Programme (2015), Indonesia progressed quite well on its human development indicators (HDI). In the last decades, the life expectancy rate in Indonesia has increased by 9.3 years, and reached a level of around 68.9 years in 2015. Moreover, the years of schooling have increased by 4.5 years, and reached a level of 7.6 years (whereby the mean is taken) in 2015. The literacy rate, at 92.8%, is high. All children are enrolled in primary school, and 82.5% go to secondary school (gross enrollment ratio).

3.3. Environmental factors

Cocoa production affects the environment in many ways. First, the inappropriate use of pesticides, which can negatively affect water and soil quality, is common in cocoa production (Potts et al., 2014). One reason for the wide spread use of pesticides are pests and diseases such as the Cocoa Pod Borer or the disease BlackPod, which can be found on many cocoa farms in Indonesia. However, a study conducted by the SCPP (2015b) found out that the knowhow of the cocoa farmers on integrated pest management is low. An integrated pest management would include the awareness of what pesticides are allowed respectively banned, how to spray the pesticides (i.e. how often) and how to manage the waste of the pesticide (i.e. the empty pesticide bottles).

Second, deforestation is a common practice in Indonesia in order to clear land for agriculture. Many of the large forest fires on the islands of Sumatra and Borneo in 2015 were the result of clearing land for plantations such as palm oil (World Resources Institute, 2015). However, there are no reliable statistics on how much forest is cleared specifically for the production of cocoa. Smallholder farmers can make a positive contribution by conserving ecosystems or planting shade trees on their farms in order to increase carbon sequestration (SCPP, 2015a).

3.4. Overview of challenges

In this section the challenges that were mentioned in the previous sections are briefly summarized and with this research question 1 is addressed here. This list is then used during the assessment of the three certification labels, specifically when analyzing the potential of the labels to tackle the current challenges in the Indonesian cocoa sector.

Economic challenges	Social challenges	Environmental challenges
Low farm productivity	Inadequate safety on farms	Inappropriate use of pesticides
Low and volatile cocoa prices	Child labor on cocoa farms	Deforestation
Absence of formal cooperatives		

Table 1: Challenges in the Indonesian cocoa sector (own table)

4. Comparison of certification standards for cocoa

This chapter compares the certification standards for UTZ, Rainforest Alliance and Fairtrade. For this purpose the requirements of the standards are examined and the thematic focus of the respective standards is presented.

4.1. UTZ

The main goal of UTZ certification is that the farmers increase farm productivity and manage their farms profitably with respect for people and planet (UTZ, 2016). According to the certification scheme, this goal can be achieved by implementing good agricultural practices on the farms. The UTZ standard encompasses 112 requirements. Most of the requirements (58%) can be attributed to the economic dimension of sustainable development, 31% to the social dimension and 11% to the environmental dimension. The net diagram below visualizes the thematic focus of the UTZ standard.

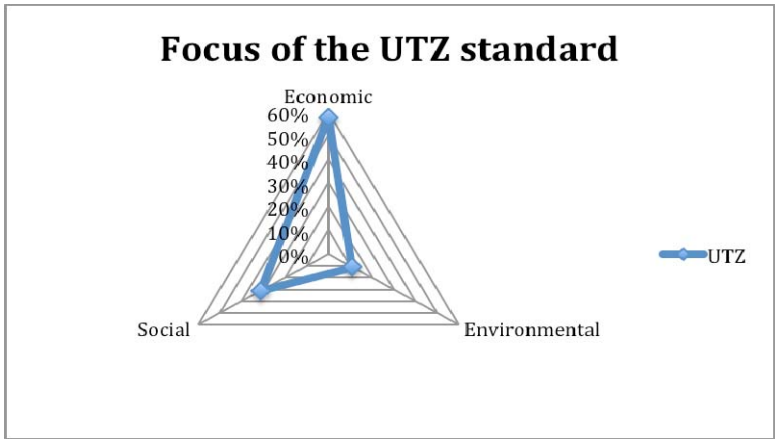

Figure 2: Thematic focus of the UTZ standard (own figure)

The **economic requirements** of the standard mainly focus on the implementation of farming practices (46 requirements). It includes practices such as soil fertility management (8 requirements), pesticide and fertilizer application (8 requirements), irrigation (6 requirements) as well as harvest and post-harvest (6 requirements). The rest of the economic requirements are related to the management of the certification, for example certification trainings are provided to the farmers, records are kept in order to ensure traceability and a premium distribution process is in place. UTZ does not require a certain premium to be distributed to the farmers, but the amount of premium is discussed upon the members (farmers, cooperatives and private partners).

The **social requirements** refer to the working conditions of the farmers and include workers' rights (38 requirements) such as education, freedom of association and working hours. Moreover, discrimination and child labor are prohibited on farms (in line with the standards of the International Labour Organization). Moreover, 15 requirements refer to the health and safety of the farmers, which includes pesticide handling, hygiene and first aid.

Finally, only 14 requirements can be attributed to the **environmental dimension**. It encompasses requirements with regard to the protection of nature, water, air, energy and waste. Interesting to mention here is that genetically modified organisms are not prohibited on farms.

4.2. Rainforest Alliance

The vision of Rainforest Alliance is "a world where people and planet prosper together" (Rainforest Alliance, 2016). The short slogan already indicates the focus of the label on social as well as environmental issues. This focus also becomes visible when looking at the distribution of the requirements within the standard. Rainforest Alliance works with the Sustainable Agriculture Standard (Sustainable Agriculture Network, 2010). In total, the standard covers 101 requirements, whereby most of the requirements are linked to the social dimension (46%) and the environmental dimension (44%) and only a few requirements to the economic dimension of sustainable development (11%) (see figure below).

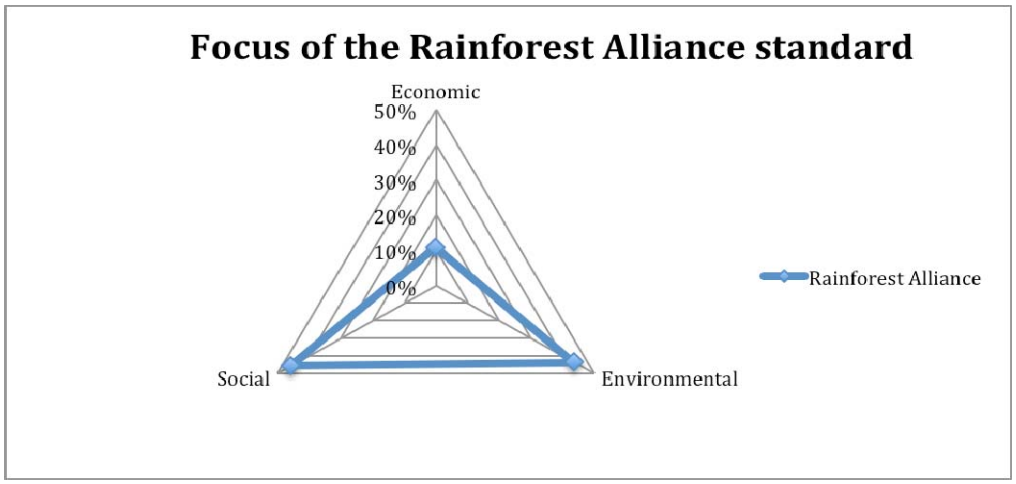

Figure 3: Thematic focus of the Rainforest Alliance standard (own figure)

The **social requirements** of the Sustainable Agriculture Standard focus on working conditions (20 principles), occupational health (20 principles) and community relations (6 principles). The working conditions of the farmers must be in line with the standards of the International Labor Organization that prohibits worst forms of child labor and allows workers to organize and associate themselves freely. Occupational health receives more attention, as compared to the UTZ standard, with 20 requirements. The standard says that all producers that use chemicals have to be trained in how to handle pesticides and have to wear personal protective equipment.

The **environmental requirements** of the Sustainable Agriculture Standard are much broader than with the UTZ standard, they include i.e. ecosystem conservation (9 principles), water conservation (9 principles), integrated crop management (9 principles), wildlife protection (6 principles) and integrated Waste Management (6 principles). The standard emphasizes the protection of natural ecosystems, i.e. by reforestation or by identifying all existing ecosystems

through a conservation program. With regard to wildlife protection, producers are not allowed to hunt wild animals on their farms. Finally, Rainforest Alliance prohibits the use of genetically modified organisms on the farm (in contrast to UTZ).

The **economic requirements** only refer to 11 principles concerning the management system that makes sure that the members comply with the standard. Similar to the UTZ standard, the Sustainable Agriculture Standard does not require a certain premium to be distributed to the farmers, but the amount of premium is discussed upon the supply chain partners.

4.3. Fairtrade

The mission of Fairtrade is "…to connect disadvantaged producers and consumers, promote fairer trading conditions and empower producers to combat poverty, strengthen their position and take more control over their lives" (Fairtrade International, 2016a). One way of promoting fairer trading conditions is to introduce a minimum price for the certified crop. In comparison, Rainforest Alliance and UTZ do not directly intervene in the market. Another key role of Fairtrade is to empower democratically organized producer organizations. The producer organizations receive a fixed Fairtrade premium and decide themselves how to invest the premium in favor of the whole community. In comparison, Rainforest Alliance and UTZ leave the level of the premium open to the supply chain partners to be certified.

The Fairtrade standard works with a step-wise approach, where the producers have to fulfill core requirements (necessary requirements to become certified) but also development requirements that show continuous improvements (Fairtrade International, 2016b). In order to analyze the standard, only the core requirements are taken into account. The vision of Fairtrade is reflected in the standard through the focus on the social dimension of sustainable development. In total, the Fairtrade standard covers 84 core requirements, whereby most of the requirements are linked to the social dimension (55%), followed by the economic dimension (24%) and the economic dimension of sustainable development (21%) (see figure below).

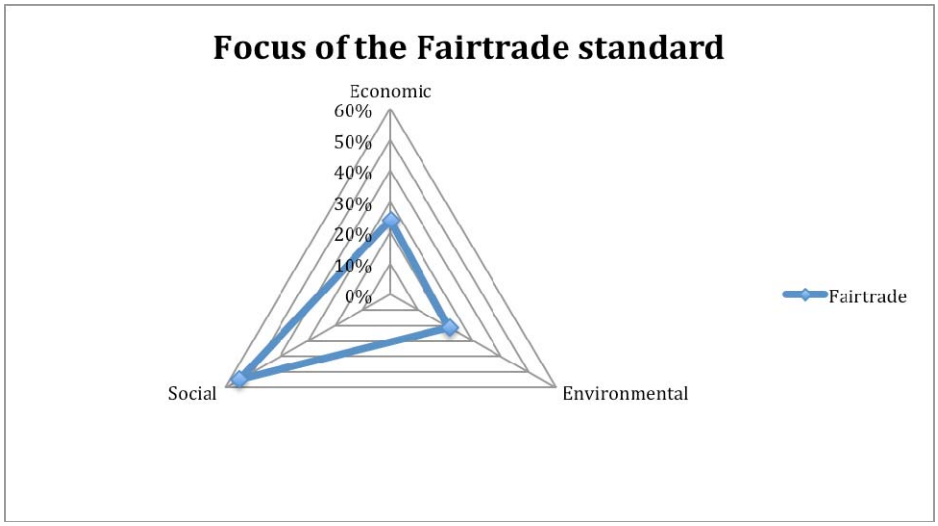

Figure 4: Thematic focus of the Fairtrade standard (own figure)

The **social requirements** of the standard refer to the Fairtrade premium that translates into a Fairtrade Development Plan for the community (7 core requirements). The requirements emphasize that the cooperatives have to be democratically organized and that the members decide together what investments the community needs (11 core requirements). These social requirements are unique with the Fairtrade system. Similar to Rainforest Alliance and UTZ, Fairtrade refers to the standards of the International Labor Organization that prohibits worst forms of child labor (7 core requirements). Moreover, workers can associate themselves freely and discrimination is not allowed (7 core requirements). The Fairtrade standard also underlines gender equity and the economic empowerment of women (2 core requirements). Finally, similar to Rainforest Alliance, the standard emphasizes on good working conditions by describing required conditions of employment as well as occupational health and safety in detail (12 core requirements).

The **economic requirements** are related to fair trading practices and are mainly outlined in the Fairtrade standard for traders (Fairtrade International, 2015). It says that traders have to pay the Fairtrade minimum price as well as the Fairtrade premium. The management of production practices in the producer standard covers relatively few requirements compared to UTZ and Rainforest Alliance. However, traceability is prominent in the standard with 8 core requirements.

The **environmental requirements** mainly focus on the handling of pesticides (7 core requirements) and the choice of pesticides used (4 core requirements). Similar to the other two certification schemes, the standard covers integrated pest management (3 core requirements), waste (1 core requirement) and biodiversity (2 core requirements). Similar to Rainforest Alliance, genetically modified organisms are not allowed on Fairtrade farms (1 core requirement).

5. Implementation and impact of UTZ and Rainforest Alliance in Indonesia

Sustainability certification in Indonesia is rather a niche market representing only around 10% of the national market share in 2011/2012 (Potts et al., 2014).

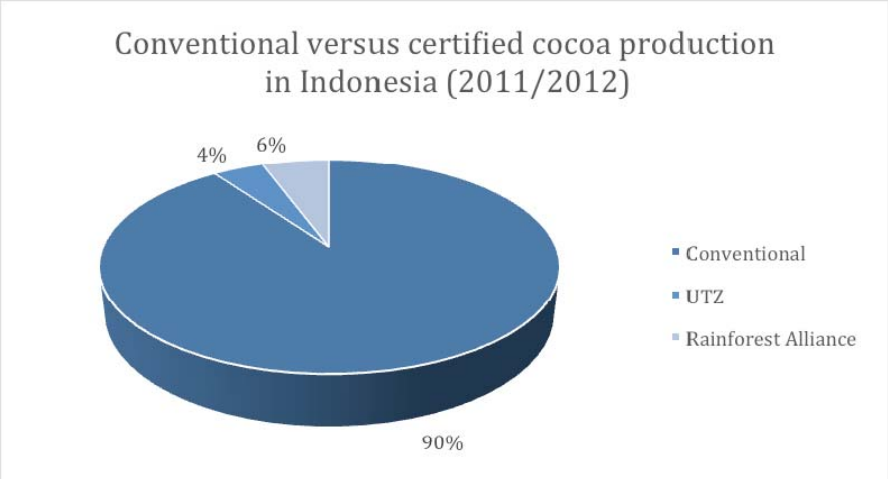

Figure 5: Conventional vs. certified cocoa in Indonesia (Potts et al., 2014)

As figure 5 shows UTZ covers around 4%, Rainforest Alliance 6% and Organic less than 0.1% of the market share (Potts et al., 2014). Cocoa processors and manufacturers decided to work with UTZ and Rainforest Alliance in Indonesia in 2012 (Molenaar, 2016). So sustainable sourcing commitments in Indonesia are rather new which reflects the rather small market share for certified cocoa in Indonesia. The reasons why the industry decided to work with these two certification schemes were compiled during an own study that was conducted for the SCPP in Indonesia in 2015 with the title "Is Certification a Viable Tool for the Indonesian Cocoa Sector?". Private sector partners such as Cargill, Nestlé, Mars and Barry Callebaut explained during the qualitative interviews that they see certification as a tool to respond to the global demand for certified cocoa, to increase their reputation, to meet sustainable sourcing commitments, to improve farm productivity and product quality and to have more control on traceability and to build loyalty of the farmers.

5.1. Implementation

Usually the first buyer (which can be a processor or exporter) or a cooperative hold the certificate in Indonesia, which means that it is responsible for implementing and monitoring the requirements of the label. The certificate holder trains the farmers according to the standards and sets up an Internal Control System (ICS) to ensure that the whole organization and all the producers are certification compliant. ICS staff mainly consists of key farmers, who have the role to audit around 10-30 farmers in their area.

Additionally, compliance is determined by independent audits generally once a year (UTZ, 2016). The Swiss auditing company Institute for Marketecology (IMO) conducts the external audits for UTZ certified farmers in Indonesia. And Rainforest Alliance farmers are audited by Rainforest Alliance itself. If the farmers are certification compliant, the certificate holder is rewarded with a price premium based on the respective contractual agreement with the private partners. Then, the certificate holder distributes the premium to the involved stakeholders (Ingram et al., 2014). In the SCPP working area the split of the certification premium is as follows: 60% goes to the farmers, 30% to the cooperatives and 10% to the buying units.

During the above mentioned own study for the SCPP ("Is Certification a Viable Tool for the Indonesian Cocoa Sector?") challenges of implementing farm certification in Indonesia were examined. The analysis showed that one of the main challenges is that the cooperatives, which were selected to hold the certificate, do only have weak financial and management capacities. For example the premium distribution process from the cooperatives to the farmers is very slow and the farmers have to wait around one year until they receive the certification premium. Moreover, the cooperatives have problems to manage the increased costs of certification. They are i.e. not able to pay the ICS staff, although the ICS staff has a crucial role in controlling whether the farmers implement the certification requirements or not. These and other reasons

lead to the fact that not all certification requirements are effectively implemented on the ground and consequently some of the farmers were expelled from the certification system. This in turn negatively affected the private partners' trust in the certification system.

5.2. Impact

This section shows the impact of the two certification schemes UTZ and Rainforest Alliance on the living conditions of the farmers. As there is only one UTZ impact study and no Rainforest Alliance impact studies at all that were conducted in the Indonesian cocoa sector, results from cocoa certification in other countries are also considered. The section then concludes how well the two certification schemes perform in tackling the current challenges in the Indonesian cocoa sector (see research question 2).

5.2.1. UTZ

As described in section 4.1 the thematic focus of the UTZ standard lies on the implementation of good agricultural practices. This focus also becomes visible when looking at the **economic impact** of the certification scheme. Molenaar (2016) that evaluated UTZ certification for cocoa in Indonesia, Ingram et al. (2014) in the Ivory Coast and Dengerink (2013) in Ghana found out that certification leads to a higher implementation of good agricultural practices on farms and therefore a higher level of yields. Dengerink (2013) underlined that UTZ certified farmers applied good agricultural practices such as pruning and weeding more intense than uncertified farmers. The trainings as well as the follow-up support provided by the programs helped the farmers to implement good agricultural practices (Ingram et al., 2014). As a consequence, UTZ certification seems to perform very well in tackling one of the main economic challenges in the Indonesian cocoa sector (economic challenge 1), which is decreasing farm productivity.

As described in section 4.1 the UTZ standard does not require a certain premium to be distributed to the farmers. In reality the premium price for UTZ certified cocoa farmers ranges between 60 and 100 dollars per ton in Indonesia (Molenaar, 2016). The rather low premium is probably a reason why the farmers believe that they can improve their income rather through an increased productivity than through the premium. Some of the UTZ certified cocoa farmers in Indonesia are not even aware that they receive a premium, because the first buyer includes the premium into the farm gate price, where it is not visible anymore (Molenaar, 2016). Therefore, it can be said that UTZ certification only has a limited capacity to tackle the challenge of low and volatile prices in the Indonesian cocoa sector (economic challenge 2).

Moreover, Molenaar (2016) found that UTZ certification promotes the formation of farmer organizations and Ingram et al. (2014) reported that 75% of the farmers belong to a cooperative. However, this information does not indicate how well the cooperatives are functioning. A study specifically conducted on UTZ cooperatives in Indonesia showed that the success so far is

limited (Lyssens, 2015). Therefore, it can be said, that UTZ certification has in general a good potential to promote the formation of cooperatives, but still the specific context of Indonesia has to be taken into account (economic challenge 3).

With regard to the **social impact** of UTZ certification, both studies only found little evidence. This is in line with the rather low focus of the standard on the social dimension (as seen in section 4.1). Although Ingram et al. (2014) observed that children in Ivory Coast worked less hours on certified farms than allowed by the standard, some of the children still performed hazardous activities such as pruning and pod opening (which is not allowed by the standard). Moreover, Ingram et al. (2014) emphasized that although the use of personal protective equipment is higher with certified farmers than uncertified farmers, the score is still very low. Also Molenaar (2016) and Dengerink (2013) see room for improvement when it comes to the use of personal protective equipment. Therefore it can be said, that UTZ certification only has a limited capacity to tackle Indonesia's social challenges, which are inter alia child labour and also the inadequate safety on farms (social challenge 1 and 2).

With regard to the **environmental impact**, Molenaar (2016) found out that certified farmers have reduced the use of banned pesticides on theirs farms. A statistic of the SCPP (2015c) underlines this evidence, but shows at the same time that still 3.7% of the UTZ certified farmers use banned pesticides such as Gramoxone (see figure below).

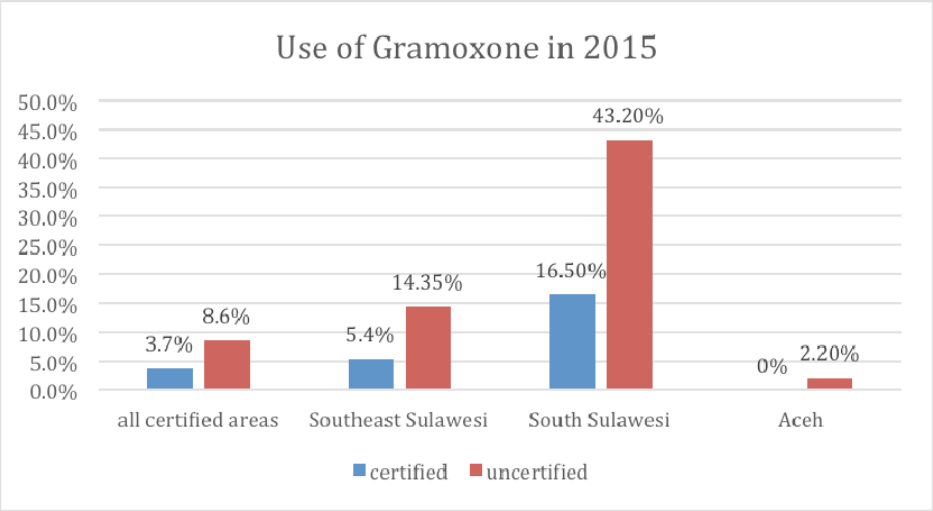

Figure 6: Certified vs. uncertified farmers' use of Gramoxone (SCPP, 2015c)

In other words, UTZ certification performs well in reducing the inappropriate use of pesticides on farms (environmental challenge 1), because certified farmers seem to i.e. use less banned pesticides than uncertified farmers in Indonesia. However, there is room for improvement, because still some of the certified farmers use banned pesticides on theirs farms, which is not allowed by the certification scheme.

Moreover, Dengerink (2013) found out that UTZ certified farmers plant much less shade trees than uncertified farmers. Furthermore, UTZ certification did not seem to inhibit deforestation as most of the farmers reported that they have cleared primary or secondary forest within the past year. Therefore, UTZ certification only has a limited capacity to tackle the environmental challenge of deforestation in Indonesia (environmental challenge 2).

The following table summarizes the potential of UTZ certification to tackle current challenges in the Indonesian cocoa sector.

Challenges	UTZ
Low farm productivity (economic challenge 1)	□□□
Low and volatile cocoa prices (economic challenge 2)	□
Absence of well-organized cooperatives (economic challenge 3)	□□
Inadequate safety on the farms (social challenge 1)	□
Child labor on cocoa farms (social challenge 2)	□
Inappropriate use of pesticides (environmental challenge 1)	□□
Deforestation (environmental challenge 2)	□

Table 2: Potential of UTZ certification to tackle challenges (own table)

5.2.2. Rainforest Alliance

As described in section 4.2 the thematic focus of the Sustainable Agriculture Standard lies on the **environmental dimension**, which also becomes visible when analyzing the impact of the certification scheme. A study by Krain, Miljard, Konan and Servat (2011), who analyzed Rainforest Alliance certified cocoa production in Ivory Coast, reported that certified farmers in Ivory Coast had a better understanding of natural ecosystems than uncertified farmers. Certified farmers planted shade trees for the first time and wildlife areas were marked for protection. Moreover, Bethge (2014) found that Rainforest Alliance certification reduced the misuse of prohibited chemicals or disadvantageous amount of chemicals. To sum up, it can be said that Rainforest Alliance has a very good potential in tackling the environmental challenges inherent in the Indonesian cocoa sector, which are inter alia the inappropriate use of pesticides (environmental challenge 1) and deforestation (environmental challenge 2).

With regard to the **social impact**, Krain et al. (2011) did not encounter child labour within the six certified cooperatives examined in Ivory Coast. However the other two studies do not mention the reduction of child labor on cocoa farms at all. Regarding the safety on the farms, Bethge (2014) reported that all farmers used personal protective equipment and Rainforest Alliance helped them to buy the equipment. In contrast, Krain et al. (2011) and Paschall (2012) did not raise the issue of increased protective clothing for the farmers. Therefore, it can be said

that Rainforest Alliance has a good (but not very good) potential to tackle the social challenges inherent in the Indonesian cocoa sector, which are inter alia inadequate safety on farms and child labor (social challenges 1 and 2).

With regard to the **economic impact,** Krain et al. (2011), Bethge (2014) and Paschall (2012) found out that the producers could increase farm productivity as well as farm quality through certification. Krain et al. (2011) explained that the integrated pest management helped to significantly reduce the number of cocoa pods affected by diseases. Moreover, the implemented good agricultural practices such as pruning, crop management and raising seedlings helped to improve farm productivity. An interesting conclusion of Paschall (2012) is that farm productivity played a more important role as an incentive for the farmers to be certified than the price premium. Finally Krain et al. (2011) reported that after certification more farmers were organized in cooperatives. The potential of Rainforest Alliance to tackle the economic challenges in the Indonesian cocoa sector are very similar to UTZ. Both certification schemes have a very good potential to increase productivity (economic challenge 1), but only have a limited impact on prices (economic challenge 2). Finally, both certification schemes have a good potential to promote the formation of cooperatives and therefore improve the situation in Indonesia that so far has a lack of well-organized cooperatives (economic challenge 3).

Although the Sustainable Agriculture Standard (see section 4.2) did not indicate the emphasis on the economic dimension, the impact studies show that Rainforest Alliance has a similar economic impact as UTZ. A reason for this discrepancy between standard and impact could be that the implementation of the standard can differ according to the stakeholders involved and the context. Moreover, the requirement 1.9 of the Sustainable Agriculture Standard ("the training topics must be identified according to the standard, the position, and type of work carried out"), gives the private sector partners the possibility to set their own training priorities.
The following table summarizes the potential of Rainforest Alliance certification to tackle current challenges in the Indonesian cocoa sector.

Challenges	Rainforest Alliance
Low farm productivity (economic challenge 1)	□□□
Low and volatile cocoa prices (economic challenge 2)	□
Absence of well-organized cooperatives (economic challenge 3)	□□
Inadequate safety on the farms (social challenge 1)	□□
Child labor on cocoa farms (social challenge 2)	□□
Inappropriate use of pesticides (environmental challenge 1)	□□□
Deforestation (environmental challenge 2)	□□□

Table 3: Potential of Rainforest Alliance certification to tackle challenges (own table)

6. Impact and barriers of introducing Fairtrade certification in Indonesia

In the first section the results of the impact studies on Fairtrade certification for cocoa are presented. The second section then concludes with a comparison of the three labels and their potential to tackle current challenges in the Indonesian cocoa sector. Specific benefits of introducing Fairtrade certification are highlighted but also possible barriers.

6.1. Possible impact

With regard to the **economic impact**, a study by Nelson and Galvez (2000) that analyzed Fairtrade cocoa production in Ecuador found out that certified farmers receive a slightly higher price than uncertified farmers due to the Fairtade minimum price. In contrast, another study (Nelson, Opoku, Martin, Bugri & Posthumus, 2013) that analyzed the cooperative Kuapa Kokoo in Ghana stated that Fairtrade certification does not have a positive impact on the farmgate price because the Fairtrade minimum price is below the nationally fixed price for cocoa (by the Ghana Cocoa Board). According to Fairtrade International (2016c) the Fairtrade minimum price for cocoa worldwide is 2000 dollars per ton. Since 2006, the international cococa prices are higher than the Fairtrade minimum price (Fairtrade Foundation, 2011, see figure below).

Figure 7: Cocoa prices 1994 – 2011 (Fairtrade Foundation, 2011)

Also the farm gate price for cocoa in Indonesia is higher than the Fairtrade minimum price for cocoa. Since 2013 the farm gate price for cocoa in Indonesia ranged between 2100 dollars per ton and 3300 dollars per ton (ICCO, 2016b). In other words, Fairtrade would have only a limited potential to tackle the challenge of low and volatile cocoa prices in Indonesia (economic challenge 2).

A clear benefit of Fairtrade certification as reported by Nelson and Galvez (2000) as well as the Department for International Development (DFID, 2000) is that Fairtrade empowers farmer groups through capacity building activities. Nelson et al. (2013) explained that in the case of the cocoa cooperative Kuapa Kokoo in Ghana, Fairtrade International played an important role in assisting the cooperative in trade facilitation as well as strengthening the capacity of the

organization by providing trainings on organizational topics (i.e. how to set up an ICS), management topics (i.e. how to set up a budget) and technical issues. Today, the cooperative represents more than 60'000 farmers and provides nearly two-thirds of the international supply of Fairtrade certified cocoa (DFID, 2000). Moreover, according to the annual report of Fairtrade Switzerland (Max Havelaar-Stiftung Schweiz, 2014) half of the premium worldwide is invested in the functioning of the cooperative itself. In sum, it can be said that Fairtrade certification would have a very good potential in building up and strengthening cocoa cooperatives in Indonesia (economic challenge 3).

In contrast, the impact of Fairtrade certification on yields seems to be rather limited. Nelson et al. (2013) observed that there was no significant difference of the level of yields between certified and uncertified farmers. Other studies did not report on any impact of Fairtrade certification on yield level. Therefore it can be said that Fairtrade certification has a limited potential in tackling the challenge of the Indonesian cocoa sector of declining farm yields (economic challenge 1). This result is in line with the thematic focus of the Fairtrade standard. As the analysis of the standard showed (see section 4.3) Fairtrade certification does not emphasize much on the management of production practices (as compared to UTZ and Rainforest Alliance certification).

With regard to the **social impact**, Nelson et al. (2013) underlined the importance of the Fairtrade premium to invest in development activities for the community. In 2013, the cooperative Kuapa Kokoo in Ghana earned approximately 375'000 dollars from the Fairtrade premium (Center for Evaluation, 2012). The Fairtrade premium was invested in boreholes, schools, mobile clinics, child labour programs and agricultural trainings. A part of the premium was also invested in the functioning of the cooperative itself, in this case in the ICS. Only a small share of the premium was directly paid to the farmers.

Moreover, the Tulane University (2011) reported that Fairtrade certification effectively works towards the elimination of child labour. The report referred to the Kuapa Kokoo cooperative in Ghana, where the auditing company FLO-CERT (which is independent from Fairtrade International) found child labour during their audits and consequently suspended the respective cocoa farming communities from the program. After that the cooperative initiated a child labor awareness program and implemented a corrective action plan. After follow-up audits the suspension was lifted. This example shows that Fairtrade certification would have a very good potential to fight child labour inherent in the Indonesian cocoa sector (social challenge 2). These results are in line with the thematic focus of the Fairtrade standard on social issues (as seen in section 4.3).

Finally, regarding the safety on the farms, Bethge (2014) reported that in the case of the Kuapa Kokoo cooperative in Ghana some certified farmers sprayed theirs farms without personal

protective equipment. Nelson et al. (2013) underlined this finding and reported that Fairtrade farmers in Ghana mentioned the non-availability of safety clothing as one of the challenges they have. It can therefore be assumed, that Fairtrade only has a limited potential to tackle the challenge of inadequate safety on Indonesian cocoa farms (social challenge 1).

With regard to the **environmental impact**, Nelson et al. (2013) observed that in the case of cocoa production in Ghana, there are improvements in farming practices such as the safe use of chemicals or the safe disposal of containers. Moreover, Nelson et al. (2013) reported that the cooperative Kuapa Kokoo invested in an afforestation program, whereby around 50'000 trees were planted in four districts. For this project, the cooperative collaborated with the Swiss chocolate manufacturing company Chocolate Halba. However, it has to be said here that these kinds of projects are highly dependent on the decision-making of the cooperatives themselves. Nevertheless it can be concluded, that Fairtrade certification would have a good potential to tackle the challenge of inappropriate use of pesticide (environmental challenge 1) and the challenge of deforestation in Indonesia, using cooperatives as driver for afforestation programs (environmental challenge 2).

Challenges	Fairtrade
Low farm productivity (economic challenge 1)	□
Low and volatile cocoa prices (economic challenge 2)	□
Absence of well-organized cooperatives (economic challenge 3)	□□□
Inadequate safety on the farms (social challenge 1)	□
Child labor on cocoa farms (social challenge 2)	□□□
Inappropriate use of pesticides (environmental challenge 1)	□□
Deforestation (environmental challenge 2)	□□

Table 4: Potential of Fairtrade certification to tackle challenges (own table)

6.2. Benefits and barriers

In this section benefits and barriers of introducing Fairtrade certification in the Indonesian cocoa sector are discussed. In order to see what added value Fairtrade certification could provide to the Indonesian cocoa sector, the assessment of all three labels (as discussed in sections 5.2.1, 5.2.2 and 6.1) are summarized in the following table (□ □tands for a limited potential, □□ □tands for a good potential and □□□ stands for a very good potential to tackle current challenges in the Indonesian cocoa sector). Very good results according to impact studies are highlighted in red.

	UTZ	Rainforest Alliance	Fairtrade
Low farm productivity (economic challenge 1)	□□□	□□□	□
Low and volatile cocoa prices (economic challenge 2)	□	□	□
Absence of well-organized cooperatives (economic challenge 3)	□□	□□	□□□
Inadequate safety on the farms (social challenge 1)	□	□□	□
Child labor on cocoa farms (social challenge 2)	□	□□	□□□
Inappropriate use of pesticides (environmental challenge 1)	□□	□□□	□□
Deforestation (environmental challenge 2)	□	□□□	□□

Table 5: Potential of all certification schemes to tackle challenges (own table)

Economic impact

With regard to the economic impact, the table shows that UTZ and Rainforest Alliance certification have a better potential to increase farm yields in Indonesia than Fairtrade certification. As seen in section 4.1 the implementation of good agriculture practices is a main focus of the UTZ standard. Moreover, impact studies show that the requirements in the standard also translate in a higher level of yields in reality. This is turn is attractive for private sector partners. As mentioned in chapter 5 cocoa processors and manufacturers decided to work with UTZ and Rainforest Alliance because they believe that the labels can help to improve farm yields. In contrast, Fairtrade certification only pays little attention on the implementation of good agricultural practices on cocoa farms. Although some cooperatives invest the premium to deliver trainings to their farmers, there is no direct link between Fairtrade certification and improved productivity. **As a consequence, a possible barrier of introducing Fairtrade certification in Indonesia could be that the private sector is not willing to work with the label.**

On the other hand the table shows that Fairtrade certification would have a better potential to strengthen cooperatives in Indonesia than UTZ and Rainforest Alliance certification. As seen in section 4.3 the empowerment of democratically organized producer organizations is a key role of Fairtrade certification. Moreover, producer organizations receive a fixed Fairtrade premium and decide themselves how to invest the premium in favor of the whole community. Impact studies (see section 6.1) observed that Fairtrade International provided trainings to coopera-

tives and that the premium was partly invested in the functioning of the organization itself. **The professional empowerment of farm cooperatives seems to be a clear benefit of the Fairtrade system**. The support of Fairtrade International and comprehensive trainings would help Indonesia to build up and strengthen its cocoa cooperatives.

However, another possible barrier of introducing Fairtrade certification in Indonesia could be that the private industry does not accept a fixed price premium but prefers the market driven models of UTZ and Rainforest Alliance where the premium can be negotiated between the certified producer and the first buyer.

Social impact

With regard to the social impact, Fairtrade seems to have a clear benefit in **reducing child labor on cocoa farms** as the example of the Kuapa Kokoo cooperative in Ghana showed. The auditing company FLO-CERT apparently takes the issue of child labour seriously. As mentioned in section 3.2 child labor is also a critical issue for the Indonesian cocoa sector. It can therefore be assumed that Fairtrade certification would provide an added value for the country.

Another benefit of Fairtrade certification as compared to UTZ and Rainforest Alliance certification is that a part of the Fairtrade premium is invested in community projects. In the case of the Kuapa Kokoo cooperative in Ghana the premium was invested inter alia in boreholes, schools and mobile clinics (as seen in section 6.1). Although Indonesia progressed quite well on its human development indicators in the last decades there is still potential to improve i.e. access to health services and education.

Environmental impact

With regard to the **environmental impact** Rainforest Alliance certification seems to have the best potential to tackle current challenges inherent in Indonesian cocoa sector, which are inter alia the inappropriate use of pesticides and deforestation. Impact studies showed (as seen in section 5.2.2) that through certification wildlife areas were protected, shade trees planted and the inappropriate use of pesticides reduced. These results are reflected in the emphasis of the Sustainable Agriculture Standard on environmental requirements (as seen in section 4.2). As a consequence, it can be said that Fairtrade certification would not necessarily contribute an added value in tackling environmental challenges in Indonesia because Rainforest Alliance certification is already present in the market.

7. Conclusion

The present essay showed that the Indonesian cocoa sector faces some mayor challenges that can be attributed to the economic, social and environmental dimension of sustainable development. **Economic challenges** are declining farm productivity and volatile prices that characterize the Indonesia cocoa sector. Moreover, cocoa farmers only receive a tiny share of the

world market prices. So far there are no prospects for a fundamental change of this situation as Indonesia lacks strong farm cooperatives that could enhance the bargaining power of the farmers within the cocoa supply chain. **Social challenges** are critical working conditions such as a lack of adequate safety on Indonesian cocoa farms. Moreover, child labor seems to be a critical topic for the agricultural sector in Indonesia. Finally, **environmental challenges** are deforestation, which is a common practice in Indonesia in order to clear land for agriculture, and the inappropriate use of pesticides on cocoa farms.

All three certification schemes UTZ, Rainforest Alliance and Fairtrade have a similar vision, which is to enhance farmers' living conditions at the beginning of a long supply chain. However, every label has its own thematic focus. Whereas UTZ emphasizes more on the economic dimension, Rainforest Alliance focuses more on the environmental dimension and Fairtrade on the social dimension of sustainable development. As impact studies show this thematic focus is also reflected in the impact and the potential of the label to tackle current challenges in the Indonesian cocoa sector. The next section summarizes these findings.

The thematic focus of the **UTZ standard** lies on the implementation of good agricultural practices. Impact studies for certified cocoa in Indonesia (Molenaar, 2016), Ivory Coast (Ingram et al., 2014) and Ghana (Dengerink, 2013) found out that UTZ certified farmers applied good agricultural practices such as pruning and weeding more intensely than uncertified farmers and therefore reached a higher level of yields. In contrast, the thematic focus of the **Rainforest Alliance** standard lies on environmental issues. Impact studies showed that Rainforest Alliance farmers reduced the misuse of prohibited chemicals (Bethge, 2014) and planted shade trees for the first time (Krain et al., 2011). A clear benefit of introducing **Fairtrade** certification in Indonesia would be to emphasize more on social issues such as child labor but also to favor whole communities through development plans that are elaborated by farmer cooperatives.

However, **a possible barrier of introducing Fairtrade certification** in the Indonesian cocoa sector is that the industry is not willing to cooperate with the label. Reasons might be that other labels such as UTZ and Rainforest Alliance certification are more business friendly, in terms of their potential to drive farm productivity but also because they do not intervene in the market with a fixed minimum price and price premium.

On the other hand, **Fairtrade has a very good potential to strengthen farm cooperatives**. This is relevant for the Indonesian context as strong cooperatives are quite rare. Empowered cooperatives can help enhancing the bargaining power of the farmers. But strong cooperatives that hold a certificate are also crucial for the implementation of effective farm certification. If cooperatives manage to set up a well-functioning ICS, the chances are higher that sustainable practices claimed are effectively implemented on the ground. This in turn increases the trust of private sector partners to support cooperatives and farm certification in the supply chain.

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