



Eliminating Deforestation from the Cocoa Supply Chain

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Executive Summary

This report examines the cocoa supply chain, its associated deforestation, and the role and limitations of certification schemes to reduce deforestation. The deforestation-related commitments from cocoa companies are analyzed across the value chain by looking at commitment types, implementation, and the enabling environment. These findings are compared with lessons from palm oil since it has the most similarities to cocoa due to its large contingent of smallholder producers and limitations that exacerbate deforestation. Finally, a vision for zero-deforestation cocoa with key principles and strategies is described. This work is meant to inform industry, governments, and development partners to be effective actors in a zero-deforestation cocoa future.

The trajectory of deforestation due to cocoa production has remained upward primarily because of rising demand for chocolate, decreasing production capacity from aging cocoa trees, lack of good agricultural practices and the shrinking suitable land area due to climate change. These factors create further incentive to convert forests to farmlands for cocoa, which threatens remaining forested and protected areas.

While cocoa production is historically a product of Latin America, it has now concentrated in West Africa where the deforestation from cocoa is most pronounced. Global production relies almost entirely on 5 – 6 million smallholders, and beyond the smallholder production level the cocoa value chain is highly concentrated among several traders, grinders and chocolate producers. While the deforestation occurs at the smallholder level, it is the companies, governments, and NGOs that need to take action due to the limited technical and economic capacity of smallholders to enact the necessary reforms on their own.

Certification schemes have emerged to address environmental and socio-economic issues related to cocoa, including biodiversity loss and forest conversion. This report examines the main three schemes: UTZ (a sustainable farming initiative), Rainforest Alliance/Sustainable Agriculture Network (RA/SAN), and Fairtrade International. The deforestation-related requirements for these certification bodies contain important nuances that determine the effectiveness and level of forest protection required by each standard. These standard-specific details for forest protection are discussed at length in the report. The strongest standard in terms of forest protection is the RA/SAN, as its forest definition extends to all natural forests protecting primary and secondary forests.

Even if the certification schemes all had strong forest protection they still contain limitations. Certification has limited impact on addressing the livelihood issue as farmers remain in poverty, the premiums remain

unrealistically low, and all three standards lack equivalent criteria for forest protection which creates sourcing complications for companies that use certified cocoa purchases as their strategy to reduce deforestation.

The continued deforestation for cocoa is not sustainable for the industry in a changing climate, and companies have taken some of the first steps to improve the social and environmental footprint of their operations. Despite their limitations, some companies are utilizing certification schemes that seek to promote responsible practices, while others are relying on their own community programs, in combination with certification, to support climate-smart practices of smallholder farmers.

A stock-take of supply chain efforts to address deforestation from the cocoa sector was conducted through surveys and interviews. In total 19 companies were evaluated based on their deforestation-related commitments. The companies include small and large bean-to-bar companies, traders and grinders, chocolate producers, consumer goods manufacturers, and retail. The findings are presented for each section of the value chain as a percent of annual global cocoa production affected by each policy or activity.

There are six trader/grinder companies included in this assessment, and collectively they trade and process 89% of annual global cocoa production. One key finding is that four out of six companies - sourcing 73% of global production - have made deforestation-related commitments with one of them (sourcing 24%) committed to 100% sustainable sourcing by 2020 based on both company-adopted principles and certification. The five chocolate producers evaluated source 39% of annual cocoa production, and they all have made deforestation-related commitments for cocoa either explicitly or committed to source 100% sustainably certified cocoa by 2020.

Overall, many companies are concerned about the viable future for cocoa in West Africa requiring transformational change in land and forest management and current cocoa production practices. Their motivation is also tied to productivity and environmental degradation that threatens the security of cocoa production with runaway climate change.

Companies' plans for addressing deforestation in cocoa includes numerous interventions and processes. The training of farmers around avoiding deforestation will continue, and many frame this intervention around productivity through intensification and cocoa tree rehabilitation or replanting. Also, companies plan to increase forest trees-on-farm at scale, promote agroforestry systems, and push for the preservation of remaining forests. The most critical issues that companies identified in addressing deforestation in cocoa production included: land tenure, agricultural intensification, deforestation awareness in local populations, and revenue diversification. These issues are also apparent in palm oil and its smallholder producers, and the lessons that can be drawn from smallholder palm oil are addressed in Chapter 4 along with export markets, landscape approaches and traceability initiatives.

The result of the company commitment stock-take and comparative analysis with palm oil is a vision for zero-deforestation cocoa. This vision is summed up in several overarching principles and key strategies that serve as the cornerstones for a deforestation-free cocoa sector. The first principle is the protection of all remaining natural primary and secondary forest. Also, legality

and transparency could also be a minimum requirement for all sustainability initiatives. Furthermore, the zero-deforestation goal could be integrated into long-term public and private sector strategies, and sustainability programs could operate at scale through jurisdictional or landscape approaches.

The key strategies for operationalizing zero-deforestation cocoa includes public-private cooperation whereby collective transformation is more efficiently achieved through increased strategic alignment. Sustainable finance is also necessary and the collective efforts by financial institutions, producer and consumer country governments, and supply chain companies will be required to develop effective financial mechanisms that work for local producers to restore or replant their cocoa farms to increase productivity without clearing forests.

There needs to be an emphasis on cocoa farm restoration and regeneration. Then by supporting sustainable intensification backed by strong safeguards these programs could become beneficiaries of climate finance and contribute emission reductions to Nationally Determined Contributions. In addition, more impact may be possible if new research and data collection are aligned with zero-deforestation goals.

Finally, the World Cocoa Foundation program CocoaAction could explicitly address the issue of deforestation, and use its platform to create zero-deforestation criteria alignment amongst the certification and company programs. These principles and strategies can be used to draft a global action agenda to end deforestation in cocoa, but action in priority countries in West Africa should be fast-tracked now. The next step in developing an action framework would be to specify what type of preventative and/or mitigation activities are appropriate for each region to ensure a sustainable future in cocoa landscapes.

1.

Objective

Cocoa has received less attention as a driver of deforestation than palm oil, soy, beef, or wood products. However, an increasing sensitivity toward deforestation driven by cocoa, combined with an awareness of productivity and livelihood limitations of smallholder farming, has led to companies being increasingly active on sustainability issues. To address these sustainability issues, some companies have established their own cocoa programs — Mondelēz’s Cocoa Life Program or the Lindt & Sprüngli Farming Program — while others turned to certification or a hybrid combination of the two. Three major standards have emerged to fill that need: the UTZ sustainable farming initiative, Rainforest Alliance/Sustainable Agriculture Network (RA/SAN), and Fairtrade International.

The World Cocoa Foundation (WCF) provides an umbrella for the various initiatives through CocoaAction. CocoaAction is a voluntary, industry-wide strategy that aligns the world’s leading cocoa and chocolate companies, origin governments, and key stakeholders on regional priority issues in cocoa sustainability. So far lacking a strategy on how to address deforestation in the cocoa supply chain, since mid-2016 WCF and CocoaAction have been working to develop that strategy. This report provides background on company commitments and formulates recommendations that may contribute to building this zero-deforestation strategy. It also provides the World Bank Group, origin governments and other development partners with principles that may help address deforestation from cocoa in collaboration with private sector actors in climate, forest and agricultural sustainability programs.

Zero Deforestation: For the purposes of this report, the vision for deforestation-free cocoa means no forest areas are cleared or converted to produce cocoa. This will require the cocoa sector to agree on a forest definition for operationalizing their commitments. This could include adopting the high carbon stock methodology, defining carbon threshold cut-offs, and setting an industry-wide baseline for past deforestation.

This report contains a stock-take of supply chain efforts to address deforestation from the cocoa sector. To do so, an assessment framework was developed to evaluate the status quo of supply chain efforts in the cocoa sector, including certification standards and company projects and programs. We complement this analysis by drawing data and information from surveys and interviews with cocoa companies, supply-chain experts and advisors. After reviewing the current projects and best practices for sustainable cocoa, we provide an analysis of lessons learned from other supply chains; other

commodities linked to deforestation — such as palm oil — share characteristics with cocoa. These similarities include smallholder production with productivity gaps, and shared concerns that sustainability requirements, without proper support, will infringe upon their ability to maintain or increase production. Identifying these cross-sectoral issues enables us to learn from and avoid these issues by pre-emptively addressing them in the guidance we develop for a deforestation-free cocoa sector.

The analysis of cocoa supply chain efforts and lessons learned from other commodities allows for the development of recommendations and a first set of high-level principles that will serve as the foundation for defining sustainable and deforestation-free cocoa. These principles are universal and refer to the cocoa sector as a whole. We recognize that there is a large variance in cocoa production systems and deforestation-related challenges. It is therefore recommended to take the formulated principles as starting work for further work that would focus on regional standards and criteria.

This report is structured as follows: based on a literature review and enhanced with expert interviews, **Chapter 2** sets the context for the assignment, providing an overview of the cocoa supply chain and of the central issues that impair its sustainable development. It also summarizes the most recent information available on deforestation and hotspot countries. In addition, we provide an overview of existing certification schemes that include deforestation-related requirements. We compare their coverage, processes and requirements, and provide an assessment of their strengths and limitations with a focus on their ability to address deforestation. **Chapter 3** takes stock of company's efforts to eliminate deforestation from their supply chain. In the first section, we introduce our methodology, based on an assessment framework for evaluating progress, and build on the previous work of the progress assessment of the New York Declaration on Forest.¹ In the second section, we present our findings. In **Chapter 4** we discuss general lessons from efforts in other supply chains, with a focus on smallholder palm oil as the most comparable commodity. In **Chapter 5** we translate our findings and the identified needs for a harmonized standard into initial recommendations and a first set of principles for sustainable, deforestation-free cocoa.

¹ www.forestdeclaration.org

2.

Overview of the Cocoa Supply Chain

Cocoa (*Theobroma cacao*) is a tropical tree cultivated and harvested for its beans, the raw material for cocoa liquor and butter, which are the main ingredients for chocolate.

While cocoa production is historically a product of Latin America, it has now concentrated in Africa; where it supplies more than two-thirds of global cocoa, with the majority produced by Côte d'Ivoire and Ghana. In addition, Cameroon, Nigeria, and other countries in the Congo Basin are significant producers in Africa. In Asia, cocoa is primarily produced in Indonesia, the world's third largest producer; in Latin America, Brazil is the fourth largest global producer. Given the market potential as well as productivity declines in some West African countries — a trend that is attributed to changing climate, soil degradation, prevalence of pests and diseases, aging plantations and political instability — Latin American producers are expected to play an increasingly important role, with Brazil and Ecuador among the top producers (see **Table 1**).

Table 1. International Cocoa Organization 2015 – 16 production forecast

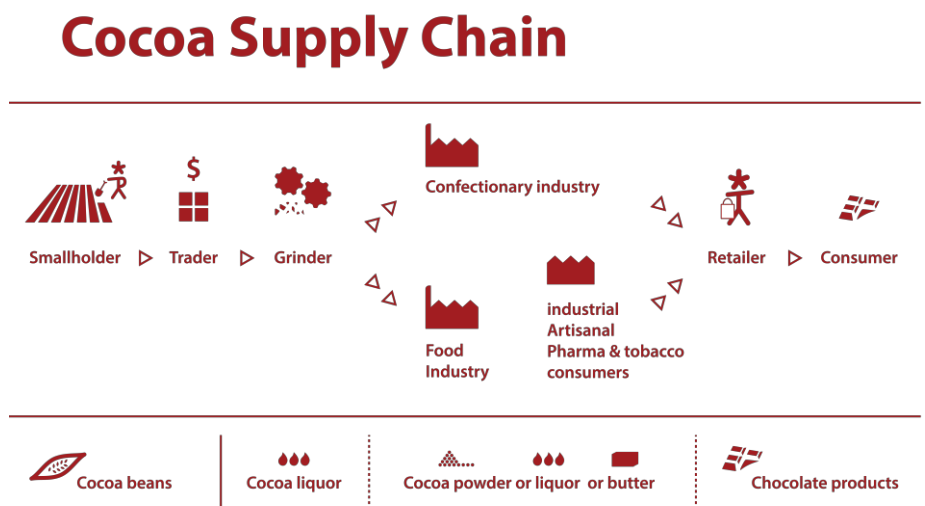
ICCO 2015 – 16 FORECAST: COCOA PRODUCTION IN TONS ²	
COUNTRY	TONS OF COCOA
Côte d'Ivoire	1,570,000
Ghana	820,000
Indonesia	330,000
Cameroon	250,000
Ecuador	230,000
Nigeria	190,000
Brazil	135,000
Papua New Guinea	36,000
Other countries, Africa	112,000
Other countries, Americas	274,000
Other countries, Asia	42,000
TOTAL	3,989,000

² ICCO, International Cocoa Organization (2016). Quarterly Bulletin of Cocoa Statistics, Vol. XLII, No. 3, Cocoa year 2015/16. https://www.icco.org/about-us/international-cocoa-agreements/cat_view/30-related-documents/46-statistics-production.html

From the bean to the final chocolate product, the cocoa supply chain involves various steps and multiple actors from local smallholder to retailers (see Figure 1). The supply chain segments for companies examined in this report starts with trader/grinders who buy the beans and begin initial processing of cocoa liquor for exporting, and they may also be involved in processing cocoa liquor for cocoa powder or butter. The next company category in the supply chain are the chocolate producers that source from the trader/grinders and either process cocoa liquor for cocoa powder and butter or they source those processed ingredients to create mixes, fillings, and couverture. Then at the tail end are the manufacturers for consumer goods and then retailers for consumers. There are also those companies that occupy the complete supply chain from sourcing the cocoa beans all the way to the final manufacturing of chocolate products – these companies are referred to as bean-to-bar companies.

The processing of cocoa beans takes place across the globe, with 40% of cocoa beans ground and processed in Europe and the remaining 60% of the market is shared among Africa, Asia and the Americas. Europe and North America dominate consumption with more than 40% and 20% respectively of cocoa products consumed in the two regions. Meanwhile, a growing middle class in emerging economies in Asia and elsewhere is leading to increased demand.⁴ Since 1999, demand has been increasing at an average annual growth rate of 3%.

Figure 1. Cocoa supply chain.
Source: Cocoa Barometer (2012)³



Beyond production of cocoa beans, the supply chain is highly concentrated, both vertically and horizontally. Global production relies almost entirely on 5 – 6 million smallholder farmers. Despite their essential role for the industry, smallholder producers remain largely unorganized and have little representation or clout in global markets for price-setting. In contrast, a small number of companies — eight traders and grinders, and six manufacturers — have a market share of 60 – 80% and 40% of the global market, respectively. These figures from 2013 are already out-of-date as

³ Cocoa Barometer (2012).
http://www.cocoabarometer.org/Download_files/Cocoa%20Barometer%20Full%202012.pdf

⁴ World Cocoa Foundation (2014), 'Cocoa Market Update', at <http://www.worldcocoafoundation.org/wp-content/uploads/Cocoa-Market-Update-as-of-4-1-2014.pdf>.

more company acquisitions have taken place further concentrating the market among a small group for trader/grinders and chocolate producers.

More than 90% of production comes from smallholder farms, with an average size of 2 – 3 hectares. Traditional smallholder systems, especially in West Africa, are rarely a profitable operation, due to limitations of scale, low yields, input costs and limited ability for investment to, for example, rehabilitate aging tree-based farms. Farmers struggle with diseased and aging trees, droughts, limited access to inputs, tenure insecurity, volatile prices and corruption. As a result, many farmers are poor, and younger generations tend to abandon cocoa farming. At the current profit share for farmers, estimated at 6% of the consumer price,⁵ economically it is neither a profitable business nor a sustainable livelihood model for smallholders to produce cocoa. According to the Cocoa Barometer — an information platform driven by nongovernmental organizations (NGOs) — even a doubling in yield and certification premiums would not lift most farmers out of extreme poverty. To a varying degree, farmers receive extension services from governments or participate in development projects supported by NGOs and downstream companies, and such support has improved the situation for some farmers and in limited locations.

These efforts are meant to address a series of socioeconomic and environmental issues in a bid to sustain cocoa production. In-house company programs and government initiatives emphasize revitalizing the sector through investment to provide access to farm inputs, deploying agroforestry systems, and increasing farmer knowledge capacity. The low productivity and capacity is seen as a major threat to preservation of forests, and it is prioritized for investment and action by stakeholders.

In Latin America, a rejuvenated cocoa sector enjoys better productivity and an increasing share in the cocoa market driven by high market demand, including for high-quality products, including fine flavor cocoa. Latin American producers also show an increasing trend toward high-tech, large-scale systems with significantly higher yields.

2.1 Deforestation Driven by Cocoa Production

The agriculture sector is a major driver of forest loss. Overall, four commodities — palm oil, soy, cattle and wood products — are responsible for 40% of deforestation (an average 3.8 million hectares (ha) per year).⁶ Compared to these “big four”, cocoa has a relatively small global deforestation footprint, but its impact is significant in certain deforestation and biodiversity hotspots, particularly the Upper Guinea Tropical Rainforest, South East Asian rainforests and Amazon forest. At the global scale, information on the cocoa sector’s role on forests is limited, rough estimates putting forest loss due to cocoa production between 2 to 3 million ha for 1988-2008 period.⁷

⁵ Cocoa Barometer 2015. An annual update on the sector published and funded by the members of the Barometer Consortium; [FNV Mondiaai](#), [HIVOS](#), [Solidaridad](#), and the [VOICE Network \(ABVV/Horval, Berne Declaration, FNV, Oxfam Novib, Oxfam Wereldwinkels, Stop The Traffik, and Südwind Institut\)](#).

⁶ Period: 2001-2011. Henders, S., Persson, M., & Kastner T. *Trading forests: land-use change and carbon emissions embodied in production and exports of forest-risk commodities*. Environmental Research Letters. 2015. Vol 10.

⁷ Climate Focus estimates based on European Commission. The impact of EU consumption on deforestation: Comprehensive analysis of the impact EU consumption on deforestation. 2013. Technical Report 063. And

Deforestation associated to the production of cocoa is highly concentrated in a few countries in Sub-Saharan Africa and Southeast Asia. For example, smallholders in the Guinean Rainforest region in Côte d'Ivoire, Ghana, Nigeria and Cameroon increased their cultivated area by 3.3% annually during 1988 – 2007, causing 2.3 million ha of forest loss.⁸ During the same period, in Southeast Asia, Indonesia lost roughly 0.7 million ha of forest for cocoa production.⁹ Historically, deforestation from cocoa in these regions has been driven by a number of factors including absence of clear land and tree tenure regime, weak legal systems and government policy promoting production increases. This is further exacerbated by an absence of inputs, degraded soil and the desire of farmers to access freshly deforested soils for nutrients.

An increased global demand for cocoa products and a decreasing productivity in cocoa sector in West Africa in recent years is driving growth in cocoa cultivation in Latin American countries and in the Congo Basin. There is very little information on deforestation from cocoa in recent past in Latin America. Although reports point to more sustainable cocoa farming practices with increased yields in these countries, reports of deforestation for industrial cocoa farming from Peru — where more than 2,000 ha of intact forests was cleared for cocoa cultivation and which is expected to increase — give reason for concern.¹⁰ In addition, cocoa production in Democratic Republic of Congo and Cameroon has significantly increased putting pressure on untouched forests in the Congo Basin and as production is projected to grow, these forests will be further at risk.¹¹

Cocoa is grown mainly in regions with high-biodiversity and moist tropical forest, and has displaced forests (see Box 1). As such, deforestation is further exacerbated by productivity declines due to poor farming practices, which leads farmers to clear more forested areas to increase production areas without overall increase in production. This has led to in-country migration to forested areas where deforestation takes place for new cocoa. This is because planting cocoa in cleared forest land has short-term economic advantages over replanting in old farms. This 'forest rent' is due to the comparatively higher input cost of replantation and more fertile soils and less exposure to pests and disease in deforested land.¹² This leads to at least temporary increased profitability, and then the farmer expands into new forests again.¹³

Gockowski and Sonwa. Cocoa Intensification Scenarios and Their Predicted Impact on CO2 Emissions, Biodiversity Conservation and Rural Livelihoods in the Rainforest of West Africa. 2010. CIFOR

⁸ Gockowski and Sonwa. Cocoa Intensification Scenarios and Their Predicted Impact on CO2 Emissions, Biodiversity Conservation and Rural Livelihoods in the Rainforest of West Africa. 2010. CIFOR.

⁹ Climate Focus estimates based on European Commission. The impact of EU consumption on deforestation: Comprehensive analysis of the impact EU consumption on deforestation. 2013. Technical Report 063.

¹⁰ WRI (2015): <http://www.wri.org/blog/2015/08/how-much-rainforest-chocolate-bar>

¹¹ De Beule H, Jassogne L, van Asten P. Cocoa: Driver of Deforestation in the Democratic Republic of the Congo? CCAFS Working Paper no. 65. CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS). Copenhagen, Denmark.

¹² Ruf and Schroth (2003). Chocolate Forests and Monocultures: A Historical Review of Cocoa Growing and Its Conflicting Role in Tropical Deforestation and Forest Conservation. In Pp 107–134 in: Schroth, G., A. Gustavo, B. Fonseca, C.A. Harvey, C. Gascon, H.L. Vasconcelos and A-M.N. Izac (eds), 2004

¹³ Ould, D. (2004). The cocoa industry in West Africa: A history of exploitation. Anti-Slavery International.

Box 1. Deforestation hotspot countries

Côte d'Ivoire: Cocoa plantation areas are estimated to have expanded from 1.6 million ha in 1990 to 2.5 million ha in 2011 at an average rate of 69,093 ha p.a. For forests, this implies an estimated 60% to 97% of cocoa plantations set up in forests range in different regions with a conservative estimation of 60% for the whole country.¹⁴ A change in climate conditions may render certain cocoa producing areas unsuitable for cocoa cultivation which increases pressure on the remaining forests.¹⁵ Although data is limited, conservative calculations predict that by 2030 an expansion in cocoa plantation may imply a 530,640 ha pressure on the forests.¹⁶

Ghana: Agricultural expansion for food crops is the predominant cause of deforestation responsible for about 80% of total deforestation. In addition, covering an estimated 1.8 million ha of land, cocoa is the single most important agricultural commodity driver of deforestation. In 1990 to 2008, about 27% of total deforestation is estimated to have been driven by cocoa cultivation.¹⁷ In one of the most productive cocoa producing regions in the country, conversion of intact forest has increased from 2.8% per year from 1986 – 2000, to 6.1% from 2000 – 2011.¹⁸ Climate suitability for cocoa cultivation in the Western regions of Ghana, the most important region for cocoa production in the country, will decrease substantially due to changing climate endangering other forested areas.¹⁹

Indonesia: This cocoa producer in Southeast Asia has **one of** the highest deforestation rates in the world, and crop cultivation is one of the main causes contributing 31% of total deforestation from 1990 – 2008. Cocoa harvested in an estimated 1.7 million ha of land has caused 0.7 million ha deforestation in this period, equivalent to 9% of total deforestation due to crop cultivation.²⁰ During the cocoa boom in Indonesia, the majority of cocoa plantations were set up in thinned forests in Sulawesi where more 70% of country's total cocoa production takes place.²¹

Democratic Republic of Congo (DRC): Years of war and insurgency and low prices led to abandonment of cocoa fields in most regions of the DRC. However, in recent years, cocoa production has increased rapidly from 1,500 tons in 2011 to 5,000 tons in 2014.²² This has resulted in an expansion of cocoa harvested area from 5,387 ha in 2011 to 26,102 ha in 2014.²³ Deforestation from cocoa production has remained low as production has taken place mainly in revitalized cocoa fields and in old agricultural lands.²⁴ Nevertheless, given the increasing global demand for cocoa products and a decrease in production in Ghana and Côte d'Ivoire, forests in the DRC will be at an increased risk of deforestation. Cocoa production in the next eight years could be responsible for loss of an estimated 17,625 to 39,550 ha of forests within the DRC.²⁵

¹⁴ Côte d'Ivoire Readiness Preparation Proposal 2013

¹⁵ Laderach et al (2013) at <https://cgspace.cgiar.org/bitstream/handle/10568/51470/Climate%20suitability%20for%20Cocoa%20farming.pdf>

¹⁶ Côte d'Ivoire Readiness Preparation Proposal 2013

¹⁷ European Commission. The impact of EU consumption on deforestation: Comprehensive analysis of the impact EU consumption on deforestation. 2013. Technical Report 063.

¹⁸ Ghana ER-PIN 2014

¹⁹ Laderach et al (2013) at <https://cgspace.cgiar.org/bitstream/handle/10568/51470/Climate%20suitability%20for%20Cocoa%20farming.pdf>

²⁰ FAOSTAT and European Commission. The impact of EU consumption on deforestation: Comprehensive analysis of the impact EU consumption on deforestation. 2013. Technical Report 063.

²¹ Clough, Y., Faust, H. and Tschamtko, T. (2009), Cacao boom and bust: sustainability of agroforests and opportunities for biodiversity conservation. Conservation Letters, 2: 197–205. doi:10.1111/j.1755-263X.2009.00072.x

²² FAOSTAT at <http://www.fao.org/faostat/en/#data/QC>

²³ Ibid.

²⁴ De Beule H, Jassogne L, van Asten P. Cocoa: Driver of Deforestation in the Democratic Republic of the Congo? CCAFS Working Paper no. 65. CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS). Copenhagen, Denmark.

²⁵ De Beule H, Jassogne L, van Asten P. Cocoa: Driver of Deforestation in the Democratic Republic of the Congo? CCAFS Working Paper no. 65. CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS). Copenhagen, Denmark.

Cocoa trees were traditionally planted after selective clearing of forests with only some of the large trees conserved mainly because cutting them was difficult and expensive.²⁶ Technical progress has resulted in abandonment of shade in favour of a full sun hybrid variety in large portions of production areas putting cocoa expansion in direct competition with standing forests. This full sun preference, especially in Ghana, is also due to short term higher yields from full sun variety which was promoted by government policies to increase production, and farmers' fear of fungal diseases because of humidity and insects in shade trees.²⁷ Furthermore, the initial exclusion of farmers from timber market in West Africa and their fear of timber companies destroying their plantations and local demand for timber drove removal of canopy trees.²⁸ However, full sun systems increase susceptibility to drought stress and, considering the vulnerability of the cocoa crop to climate change, the full sun cropping system does not have long-term viability in a region that will be more stressed by climate change going forward.²⁹

Lack of land tenure security incentivizes removal of shade trees and encroachment into forests. In West Africa, in particular in Ghana, the prevalent customary land tenure regime discourages farmers to invest in farms. Under customary land agreements common in cocoa sector in Ghana the farmer is responsible for maintaining the farm and the farm is divided when the trees mature with farmer holding perpetual right over his share on the condition that land remains in cocoa, or the harvest is shared between the landlord and the farmer who is just a sharecropper and landlord retaining the right over his land.³⁰

In addition, since cocoa is primarily an exported commodity, deforestation caused by cocoa production is an important issue for importing countries and consumers to consider concerning sustainability and embedded deforestation and emissions in products. An analysis for the EU shows that during 1990 – 2008, the EU27 (27 member states of the EU) imported an estimated 0.6 million ha of deforestation embedded in cocoa production, equivalent to 8% of EU27's imported deforestation.³¹ The other major consumer country, the United States, imported an average of 1.08 million tons of cocoa annually in 1999-2008, which if the same assumptions as the EU27 study are applied, amounts to 0.4 million ha of deforestation embedded in imports.³²

²⁶ Ruf and Schroth (2003). Chocolate Forests and Monocultures: A Historical Review of Cocoa Growing and Its Conflicting Role in Tropical Deforestation and Forest Conservation. In Pp 107–134 in: Schroth, G., A. Gustavo, B. Fonseca, C.A. Harvey, C. Gascon, H.L. Vasconcelos and A-M.N. Izac (eds), 2004

²⁷ Obiri et al. (2007). Financial Analysis of Shaded Cocoa in Ghana. *Agroforestry Systems* 71: 139–49.

²⁸ Ruf (2011). The Myth of Complex Cocoa Agroforests: the Case of Ghana. *Hum Ecol Interdiscip J.* 2011 Jun; 39(3): 373 – 388.

²⁹ Läderach et al. Predicting the Future Climatic Suitability for Cocoa Farming of the World's leading Producer Countries, Ghana and Côte d'Ivoire. CGIAR.

³⁰ Roth, M., Antwi, Y., & O'Sullivan, R. (2017). *Land and Natural Resource Governance and Tenure for Enabling Sustainable Cocoa Cultivation in Ghana*. Washington, DC: USAID Tenure and Global Climate Change Program.

³¹ European Commission, 2013

³² Climate Focus calculations based on FAO Statistics and USDA statistics, applying the same assumptions as European Commission 2013.

2.2 Certification Schemes in the Cocoa Sector

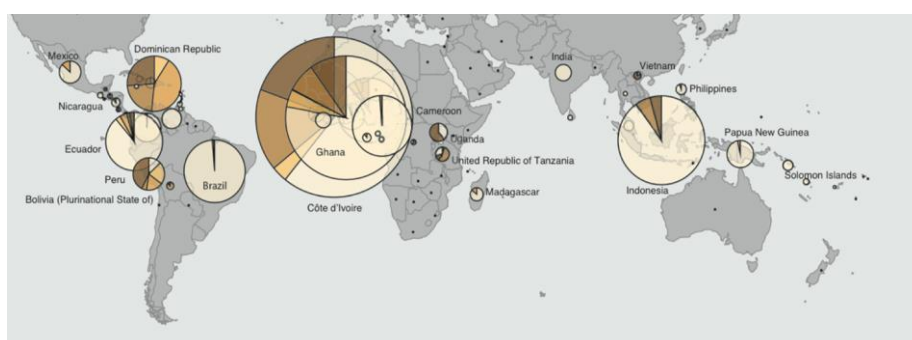
2.2.1 Market Penetration

Several certification schemes have emerged to address a range of environmental and socioeconomic issues related to cocoa production, including biodiversity and forest conversion. The three major standards in the cocoa sector — UTZ, RA/SAN, and Fairtrade International — cover a sizable market share: 1.7 million tons (42%) of global cocoa produced by more than 920,000 farmers on an area of 2.8 million ha (28.1% of the global production area). These numbers are, however, overestimated since a larger amount of production (estimated at 33% or 50%³³) is certified by two or more standards. A comparison of the market penetration of three standards is presented in Table 2 and the share of certified production specific countries is presented in Figure 2.

Table 2. Comparison of major sustainability standards in the cocoa sector. Sources: Standard websites

	UTZ	RA/SAN	FAIRTRADE
Farmers	466,000	280,000	180,000
Share of global farmers	9.3%	5.6%	3.6%
Area	1,530,000 ha	850,000 ha	434,000 ha
Share of global area	15%	8.5%	4.3%

Figure 2. Global production of conventional and certified cocoa.



Source: IISD 2014. *The State of Sustainability Review 2014. Standards and the Green Economy. Chapter 7: Cocoa Market*

Premiums for certified cocoa can be an incentive for pursuing certification. If, however, farmers can only sell a portion as certified, forgoing the premium, then even increased income from selling larger quantities of quality cocoa leaves a dissatisfaction about the effectiveness of certification.^{34 35} In addition, farmers focused on securing premiums may fail to consider the benefits accruing from higher yields and quality of their cocoa. However, if certification doesn't garner a relatively higher price for cocoa for the farmer, and if the same quality and quantity benefits accrue from training programs absent certification then moving beyond certification is also a viable option for the cocoa sector.

Participating in certification schemes provides farmers access to agricultural inputs (e.g., seeds, fertilizers, and equipment), and training to improve productivity and credit. This in turn helps them achieve a higher yield of better quality cocoa beans and, paired with a demand for high-quality

³³ Cocoa Barometer (2015)

³⁴ Cocoa Barometer (2015)

³⁵ KPMG, 2012. Cocoa Certification. Study on the costs, advantages and disadvantages of cocoa certification commissioned by The International Cocoa Organization (ICCO). KPMG, The Netherlands. 48p

cocoa at a superior price in the market, the farmers' access to market and income improves. However, certification is seen by some smallholders as too costly (e.g., labor, investment in the farm, and administrative costs).

The uncertainty around premiums, profitability, and the other benefits of certification has not stopped the growth in membership for the standard bodies' certification schemes. As of 2014, UTZ certified mainly smallholders, organized into groups and cooperatives, and between 2011 and 2014 UTZ certified cocoa sales grew by 814%. The UTZ cocoa program has expanded through new certified group members that consist mostly of small farmers, but there are also a few large-scale plantations in Latin America, which are expected to expand their market share.³⁶ RA/SAN is active in 42 countries and accounts for the certification of 13.6% of the global cocoa production. About half of the active RA/SAN certificates are group certificates, covering multiple individual member farms under a "group administrator" that manages the certificate. The third major standard in the cocoa sector is Fairtrade International. In 2014, Fairtrade cocoa farmers produced 218,000 tons, but only 33% was sold as Fairtrade certified.³⁷ The farmers under the Fairtrade label are organized into 129 "small producer organizations" in 20 countries, and they follow a standard for "small producer organizations" that is administered by third party FLOCERT, a global certification and verification body.

In addition, the European Committee for Standardization (CEN) is developing a series of new ISO/CEN standards for "sustainable and traceable cocoa beans".³⁸ With these standards, CEN aims to create harmonized initiatives and procedures as well as a common understanding on sustainability requirements. Drafts that were under public review in the last few months will be considered for publication in 2017.³⁹

Agricultural certification standards may ensure direct impact on reducing deforestation by setting cut-off dates for deforestation sufficiently far in the past and by accurately identifying production areas, forests, High Conservation Values (HCV), and other important ecosystems to prevent conversion during farm or plantation establishment. Some certification standards, like the Roundtable on Sustainable Palm Oil (RSPO), Roundtable on Sustainable Soy, RA/SAN, and UTZ, allow offsetting of past unsustainable practices by protecting or restoring an equivalent area of land originally deforested. Other agricultural certification standards, such as Naturland, seek to increase their impact by restoring degraded and deforested areas or by establishing minimum forest cover rules for certified areas. Similarly, some forest certification standards aim to enhance their forest-related impacts by working with governments in locating their plantations next to HCV or primary forests, to provide a buffer for these areas. The effectiveness of this approach is unknown.

³⁶ Confectionary News (2016). <http://www.confectionarynews.com/Commodities/Cocoa-s-future-lies-in-Latin-America-Report>

³⁷ Fairtrade International (2015) Monitoring and Impact Report. http://www.fairtrade.net/fileadmin/user_upload/content/2009/resources/2015-Monitoring_and_Impact_Report_web.pdf

³⁸ Reference CEN/TC 415, Sustainable and Traceable Cocoa; with the secretariat led by DS, ISO's member for Denmark, along with ISO technical committee ISO/TC 34/SC 18, Cocoa, which is jointly managed by ISO members for Côte d'Ivoire (CODINORM), Ghana (GSA) and the Netherlands (NEN).

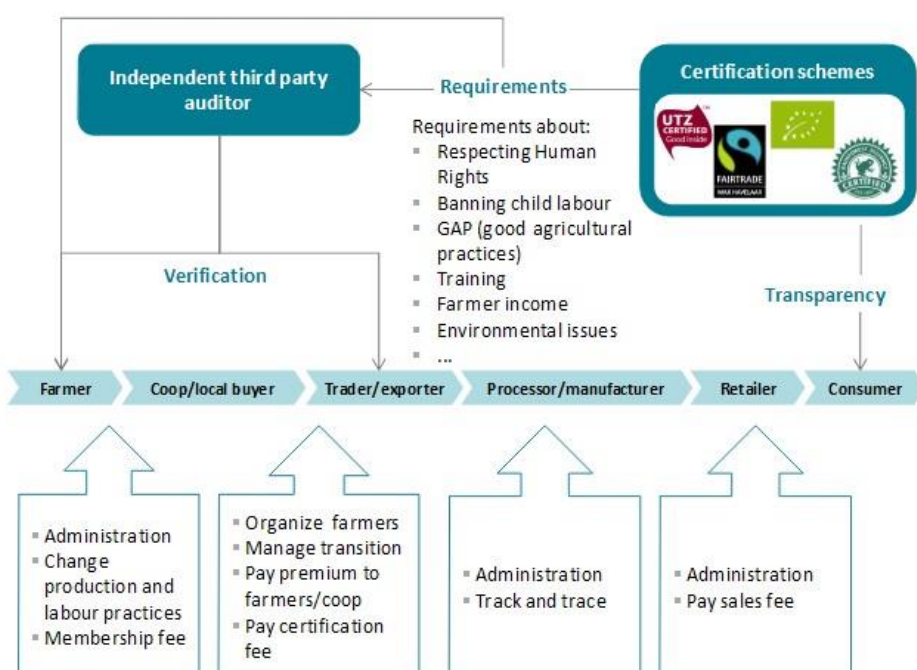
³⁹ News Article, ISO, 19 September 2016: Big step forward for the cocoa sector with new global standards in the pipeline <http://www.iso.org/iso/news.htm?refid=Ref1936>

2.2.2 Certification Processes

The certification process involves implementation of an internal control system by the farmer or cooperative and an official audit or verification by a third party. The hired auditor submits findings to the certification scheme. If the findings are negative, recommendations for improvement are given and a time for a second audit will be fixed. Regular audits are conducted to assess compliance.

The cocoa cooperatives do not need to comply with all requirements from the beginning. Some requirements are necessary for the first year. The schemes have an adjustment period for the cooperatives to progress in meeting all requirements as part of continuous improvement. They also have different training requirements for the first, second and third year. Depending on the scheme, cooperatives or farmers are certified after final approval by a third-party auditor. The flow chart in Figure 3 represents the typical stages and requirement categories for major certification standards.

Figure 3. Flow chart of certification schemes. Source: KPMG 2012



2.2.3 Deforestation-related Requirements

The three schemes evaluated set different standards for biodiversity conservation concerning forests and other natural ecosystems, and use HCVs explicitly or implicitly in their certification criteria for forest protection.

In general, HCV are biological, ecological, social, or cultural values that are considered outstandingly significant or critically important at the national, regional, or global level. Under this concept, companies pledge to avoid all development in HCV areas, which does not include developments and deforestation outside of HCV areas. Table 3 briefly describes the deforestation-related requirements of the major standards.

Table 3. Comparison of Certification Criteria

UTZ	RA/SAN	FAIRTRADE
No deforestation of primary forests, but secondary forest clearance is allowed if there is compensatory reforestation	No deforestation of natural forests and/or HCV areas	No partial or complete destruction of any protected or HCV areas

The deforestation-related requirements for the three major certification bodies contain important nuances that determine the effectiveness and level of forest protection required by each standard. The strongest standard in terms of forest protection is the RA/SAN, as its forest definition extends to all natural forests protecting both primary and secondary forests. This standard also includes the High Carbon Stock (HCS) approach as an alternative method of avoiding deforestation for cocoa development, and while HCS is a relatively new approach it is a clear way of delineating high carbon forests to conserve and former forest areas for development. The other two standards, UTZ and Fairtrade, take an HCV approach which protects primary forests but leaves secondary forests open to development. Dependence on the HCV approach means that both UTZ and Fairtrade are not deforestation-free.

The HCV approach protects valuable places, but it does not go far enough to protect what some would identify as degraded but valuable secondary forests. This is an especially important point in cocoa producing countries like Ghana and Côte d'Ivoire where 92% and 90%, respectively, of forests are naturally regenerated (secondary forests). These naturally regenerated forests may be disqualified from protection under the Standard Bodies' forest definitions or narrow protections for primary forests which only cover 4% and 6% in Ghana and Côte d'Ivoire, respectively⁴⁰.

Each standard has its own relevant details for deforestation-related requirements. It is vital for companies that seek to use certification as an implementation tool for their deforestation-related commitments to understand whether each certification standard can deliver in terms of avoiding deforestation in their supply chain, or that they need to go beyond this for credible and measurable impact.

UTZ defines codes of conduct for individual and multi-site farms, group, and multi-group certification. The code of conduct⁴¹ is a rulebook for certifying the growing and harvesting process for farmers and farmer groups. In the code for individual and multi-site certification there are four control points (pillars of sustainable agriculture), and one of them is "Environment" with the deforestation-related requirements. The control point (CP) provides the requirements and each component is assigned a "year" (out of four) that indicates when the CP must be met from the first year of certification. Furthermore, there is clarification for each CP that guides implementation and is mandatory guidance (see **Box 2**).

Box 2. UTZ Environment Control Points

CP 113 mandates: No deforestation or degradation of primary forest occurs or has occurred since 2008.

CP 114 mandates: No deforestation or degradation of secondary forest occurs unless:

1. A legal land title and/or landowner permission is available
2. Government permits are available (if required), and
3. There is a report produced by an environmental expert (UTZ-certified) confirming that the appropriate clearing techniques are used, and that there is compensation with reforestation activities of at least equal ecological value.

⁴⁰ Global Forest Watch country profiles

⁴¹ <https://www.utz.org/what-we-offer/certification/products-we-certify/cocoa/>

UTZ's certification does not protect secondary forests. Any forest that has been logged at any point is open for development according to UTZ primary forest definition.⁴²

Rainforest Alliance/SAN. The Rainforest Alliance standard is based on the Sustainable Agriculture Network (of which it is a member) that certifies sustainable commodities. In cocoa, most SAN certification is based on group certification for smallholders. In the new 2017 SAN standards, it is Principle 2 that deals with deforestation, and the section is entitled Biodiversity Conservation with four subsections of critical criteria. The three criteria relevant for deforestation are described in **Box 3**.

Box 3. Rainforest Alliance/San Deforestation-Related Principles and Forest Definition

High Conservation Value (HCV) areas have not been destroyed from November 1, 2005 onward.

Farms **conserve** all **natural ecosystems** and have not **destroyed forest** or other natural ecosystems in the five-year period prior to the date of initial application for SAN certification or after January 1, 2014, whichever date is earlier.

SAN Forests definition: Forests include both humid forests (rainforest) and drier forests; lowland, montane, and cloud forests; and forests consisting of any combination of broadleaf, needle leaf, evergreen, and deciduous vegetation. Forests are defined as tree-covered areas that:

1. Are not occupied by agriculture or other specific non-forest land uses; and,
2. Consist primarily of native plant species; and,
3. Contain a vegetation structure that generally resembles that of a natural forest of the same age in the same area; OR

Are classified as High Carbon Stock (HCS) forests according to the HCS approach (www.highcarbonstock.org) or, in regions where HCS parameters have not yet been defined, have been regenerating for at least 10 years with minimal human disturbance.

Production activities do not degrade any protected area.

The biodiversity conservation principle within SAN also contains a section on continuous improvement that includes maintaining large native trees outside of natural ecosystems, restoring native vegetation cover to at least 10% of the farm, and restoring zones adjacent to aquatic ecosystems.

Fairtrade International. The Fairtrade standard for small producer organizations includes environmental development within its production standard that elaborates on Fairtrade's biodiversity requirements. These requirements are applicable to the whole farm where a Fairtrade crop is grown. The standard requires small producer members to avoid negative impacts on protected areas and areas with high conservation values within or outside the farm or production areas. The rule for avoiding negative impacts refers to either the partial or complete destruction of the protected area or loss of the high conservation value. The other areas that are used or converted to production for the Fairtrade crop must comply with relevant national legislation.

⁴² <https://utzcertified.org/attachments/article/26584870/EN%20-%20UTZ%20Certification%20Protocol%204.0.pdf>

2.2.4 Limitations and Strengths

Limitations in addressing the livelihood issue: Overall, while many cocoa smallholders saw improvements through certification, productivity and incomes remain relatively low which means many don't consider cocoa farming a viable livelihood going forward.⁴³ Certification aimed at improving these farmers' lives, income, crops and the environment may need to go beyond the cocoa fields and certification of cocoa. An example being the production of other subsistence and cash crops needed to enjoy sustainable and diversified livelihoods. The promotion of intercropping agroforestry systems as part of certification could benefit many cocoa farmers, but the type of agroforest, payback period, and what benefits should be prioritized are still subject to debate, environmental context, and ongoing research.⁴⁴

Increased productivity but low premiums: RA/SAN's impact report shows that even without price premiums to compensate for costs of certification, some farmers still see increases in both productivity and profitability in most instances where these outcomes have been evaluated. However, the premiums are unrealistically low, usually around 10% of additional revenue, and that net benefit is reduced by the certification costs which harms profitability⁴⁵. Furthermore, premiums are not always clear when negotiated, and there is little evidence of large certification price premiums accruing to RA/SAN-certified farms. There is also the issue of premium distribution within cooperative structures that does not always provide measurable benefits to the farmers, and farmers are vulnerable to shifts in demand that can reduce premiums or force them to sell certified products on the conventional market. However, if certification can provide gains in productivity on the current farm area that then regularly results in profits that surpass the costs of certification then low premiums will be less of a hindrance to the uptake of certification by more farmers. In addition, companies that want to move away from certification to their own programs can still produce these increases in productivity and quality with continued training in good agricultural practices and access to improved inputs and planting materials.

Lack of comparability: A common industry-wide criterion for zero-deforestation cocoa would enable businesses committed to eliminating deforestation from their cocoa supply chain to better meet their goals. Many companies are looking to achieve their commitments by increasing their uptake of certified cocoa, but their decision is unnecessarily complicated by the three main standards that all have different and insufficient criteria for forest protection. Also, it is unknown how much of the certified cocoa supply is certified by more than one standard, which creates uncertainty for the availability of certified supply and a lack of transparency for consumers. A major limitation for the certification bodies is that they can't provide companies with a claim for zero deforestation. Until the certification bodies can agree to universal and straightforward forest protection criteria the lack of comparability will remain a clear limitation on companies that want to be deforestation-free and source certified cocoa.

⁴³ KPMG, 2012. Cocoa Certification. Study on the costs, advantages and disadvantages of cocoa certification commissioned by The International Cocoa Organization (ICCO). KPMG, The Netherlands. 48p

⁴⁴ Ruf (2011). The Myth of Complex Agroforests: The Case of Ghana. Human Ecology June; 39(3): 373-388. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3109247/>

⁴⁵ KPMG, 2012. Cocoa Certification. Study on the costs, advantages and disadvantages of cocoa certification commissioned by The International Cocoa Organization (ICCO). KPMG, The Netherlands. 48p

Lack of demand or certified product uptake: There is still a significant need to stimulate demand for certificate holders who are only able to sell a small part of their certified volume. Some farmers can't afford to wait to find a buyer for their certified product and will instead choose to sell their product without the premium. This is an area where traders can be more proactive at connecting certified producers and buyers with commitments to increase purchases of certified cocoa. UTZ specifically has recognized that growing company commitments and market interest has led to a continuous increase in the supply-demand ratio and in single certification. The increase in commitments has led to single-label contracts, and traders are now focusing on single certificate holders. This in turn puts more pressure on certification bodies to correct the comparability issue for forest criteria so that companies that prefer single-label contracts can choose any of the three major certification schemes and get the same forest protection criteria for their cocoa products. Alternatively, companies developing or involved in landscape approaches in cooperation with governments provide an alternative model that seeks to create zero-deforestation cocoa landscapes for sourcing.

Limited capacity to meet biodiversity requirements: Certification criteria call for cocoa farms to retain biodiversity where it exists or partially restore tree cover, but this requires tree planting and/or ongoing management of the shade canopy, which can be difficult without proper direction on balancing biodiversity and production, and there is a lack of clear information on the optimum shade agroforestry system to provide both productivity and biodiversity benefits. Specifically, for RA/SAN certification there are challenges for on-farm compliance include meeting the criteria for riparian zone protection, shade cover, and overall ecosystem conservation.

Unclear impact on reducing deforestation: there is still a deficit of evidence that certified cocoa reduces or prevents deforestation from occurring. While some certification schemes have strong requirements for avoiding deforestation, the farms that are certified are generally located in areas that have already been cleared in accordance with different baselines. Furthermore, farmers in low deforestation risk areas are more likely to become certified, and those that are deforesting or encroaching into protected areas are not allowed be certified in the first place but this does not prevent this deforestation activity. This dynamic is why some companies see certification as a tool to claim reductions in deforestation risk in their supply chains. This approach does not remove deforestation from the commodity overall.

3 ■

Tracking Progress of Efforts to Eliminate Deforestation in the Cocoa Supply Chain

3.1 Methodology

To assess progress of companies and other stakeholders in addressing deforestation in the cocoa supply chain, we developed an assessment framework that allows for the tracking and comparability of progress: from initial supply chain pledges to implementation of deforestation commitments by companies and support by other stakeholders, to overall impact on forests. The framework is based on the methodology developed by a multi-stakeholder coalition for the New York Declaration on Forests (NYDF) Progress Assessment, which was in 2016 and focused on efforts to eliminate deforestation from major agricultural commodities.⁴⁶

Companies first adopt **supply-chain commitments (Criterion 1)**, then implement those commitments through company policies, operational plans and **monitoring and compliance systems (Criterion 2)**. They receive support from governments, financial institutions, NGOs and other stakeholders that creates an **enabling environment to encourage and permit action (Criterion 3)**. Finally, the overall impact of supply-chain efforts on deforestation determines the **eventual success of these efforts (Criterion 4)**. The first two criteria are proxies for assessing private sector progress by determining what steps the company has taken or the support that companies have received to eliminate deforestation in its supply chain. Criterion 3 measures support from financial institutions, public and civil society actors, while Criterion 4 seeks to address whether these efforts translate into measurable, reduced deforestation. Due to data limitations, we have not yet been able to assess progress toward Criterion 4. The Assessment Framework for tracking progress of deforestation-related commitments by cocoa sector companies is presented in **Table 4**.

While some information is available on certification, there is limited up-to-date and detailed quantitative information on cocoa certification schemes. The certification body impact reports and NGO coalition reports, like the Cocoa Barometer, were used for a majority of the information on cocoa certification. Other information on commitments for Criterion 1 and 2 were based on a recent survey conducted by the International Sustainability Unit of HRH The Prince of Wales (ISU), and the Sustainable Trade Initiative (IDH). Climate Focus also surveyed a select group of companies in the

⁴⁶ See also Climate Focus. 2016. Progress on the New York Declaration on Forests: Eliminating Deforestation from the Production of Agricultural Commodities – Goal 2 Assessment Report. Prepared by Climate Focus in cooperation with the NYDF Assessment Coalition with support from the Climate and Land Use Alliance and the Tropical Forest Alliance 2020. Available at: <http://forestdeclaration.org/wp-content/uploads/2015/11/2016-Goal-2-Assessment-Report.pdf>

cocoa sector based on consultations with WCF. The information gathered on 19 companies was also complemented with reviews of public company materials, academic and grey literature, and interviews with another select group of companies.

Table 4. Assessment Framework for tracking progress in deforestation-free cocoa supply chains

CRITERIA	INDICATOR	DATA SOURCES
1 Commitment of companies	Deforestation-related commitments by companies <ul style="list-style-type: none"> Companies broken down according to commitment type (certification, projects, and targets, and operation-wide versus cocoa-specific), supply chain position, timelines Analysis of relevance for deforestation hotspots and market share (if data is available) 	<ul style="list-style-type: none"> Company survey (IDH and Climate Focus) Certification Impact Reports (RA/SAN, UTZ) Company sustainability reports (for a limited number of companies)
2 Implementation of private sector commitments	Adoption of deforestation policies to implement commitments <ul style="list-style-type: none"> Adoption of company standards Adoption of actionable and time bound policies/plans Adoption of procurement policies (e.g., linked to certification) Defined KPIs and benchmarks related to deforestation Adoption of policies to support farmers and intermediaries in meeting company standards Analysis of relevance for deforestation hotspots and market share (if data is available) 	<ul style="list-style-type: none"> Company survey (IDH and Climate Focus) Company sustainability reports (for a limited number of companies)
	Compliance with company policies <ul style="list-style-type: none"> Certification of supply/production Subsidiaries and/or suppliers' compliance with deforestation policy Public disclose of information on compliance and progress Implementation of training for farmers, mapping of sourcing to farm level, promotion of land use planning, outgrower schemes Analysis of relevance for deforestation hotspots and market share (if data is available) 	<ul style="list-style-type: none"> Company survey (IDH and Climate Focus) Company sustainability reports Cocoa Barometer 2015
	Monitoring of compliance with company policies <ul style="list-style-type: none"> Monitoring and traceability system in place Traceability to specific points of origin Monitoring of supplier compliance Monitoring deforestation and with satellite imagery 	<ul style="list-style-type: none"> Company survey (IDH and Climate Focus)

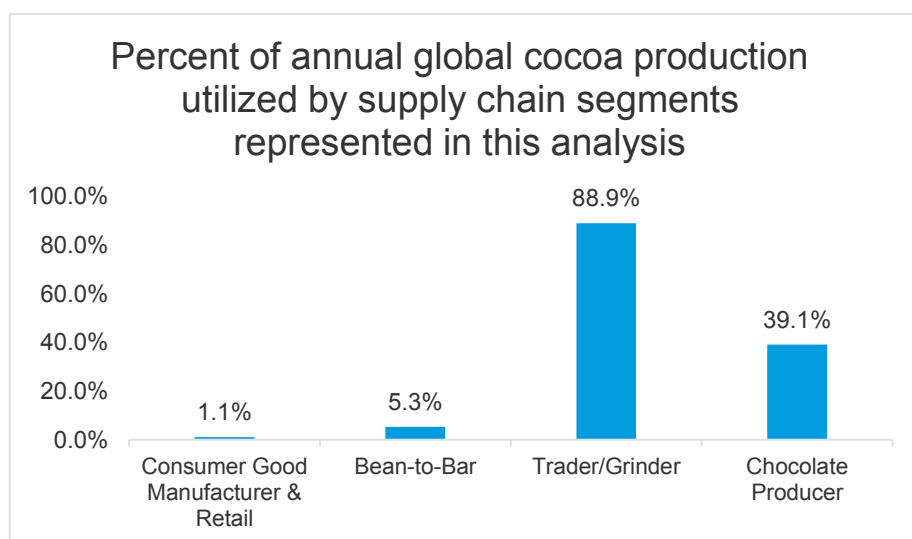
CRITERIA	INDICATOR	DATA SOURCES
<p>3 Support by non-supply chain actors (enabling environment)</p>	<p>• Analysis of relevance for deforestation hotspots and market share (if data is available)</p> <p>Deforestation-related commitments and actions by cocoa-producing countries (qualitative):</p> <ul style="list-style-type: none"> • Government programs with commitments, plans or concrete partnerships (incl. public-private) • Projects for sustainable smallholder cocoa production supported by public sector and civil society • Analysis of relevance for deforestation hotspots and market share (if data is available) <p>Enabling environment and barriers perceived by companies (qualitative)</p> <ul style="list-style-type: none"> • Governance and regulatory environment • Policy incentives • Market access, price and consumer demand • Technology and traceability systems • Certification systems and processes <p>Deforestation-related commitments and actions by cocoa-importing countries (qualitative)</p> <p>Deforestation-related commitments and actions by financial institutions</p>	<ul style="list-style-type: none"> • Reducing Emissions from Deforestation and Forest Degradation (REDD+) program documents (FCPF, Forest Investment Program (FIP), BioCarbon Fund) • Company survey (IDH and Climate Focus) • Company survey (IDH and Climate Focus) • Lessons from NYDF Report • Expert interviews • Literature review • Lessons from NYDF Report
<p>4 Overall impact of deforestation</p>	<p>Reduction of deforestation associated with cocoa: Cocoa-specific data is not yet available. We will provide an overview and state of the data and tools that could fill this gap in the future, including Trase and Global Forest Watch (GFW).</p>	<ul style="list-style-type: none"> • Interviews with companies and review of review of new platforms from Ghana Cocoa Platform and World Resources Institute (WRI)/GFW

3.2 Findings

In total 19 companies were evaluated based on their deforestation-related commitments. We analyzed whether any commitments included commitments to zero deforestation or the preservation of high conservation value and high carbon stock forests. We also looked at implementation whether through cocoa certification or internal company standards and programs and whether they included programs to support smallholder.

Of the 19 companies, 12 (63%) have made deforestation-related commitments that are either cocoa-specific or include cocoa in their operation-wide commitment. The 19 companies include small and large bean-to-bar chocolate companies, traders and grinders, chocolate producers, consumer goods manufacturers, and retail. Due to the nature of the cocoa supply chain and the companies involved in this study there is an overlap in the flow of cocoa that is covered by more than one company’s commitment and at different stages of the value chain. This is why we present our findings per section of the value chain and as a percent of annual global cocoa production affected by each policy or activity as it flows between value chain segments. Therefore, the percent of global cocoa production covered by commitments is higher than 100%. For example, there are six trader/grinder companies included in this assessment, and collectively they trade and process 89% of annual global cocoa production (based on 2016 forecasted production). Then, while some of the trader/grinders have commitments, all five of the chocolate producers assessed (who source 39% of annual cocoa from trader/grinders) have commitments. Therefore, just as in other commodities that flow through multiple actors with their own commitments, cocoa is no different except its trade is concentrated in even fewer upstream companies. This is why our information is displayed via share of global production and the nature and number of these deforestation-related commitments is broken down by supply chain segments (see Graph 1).

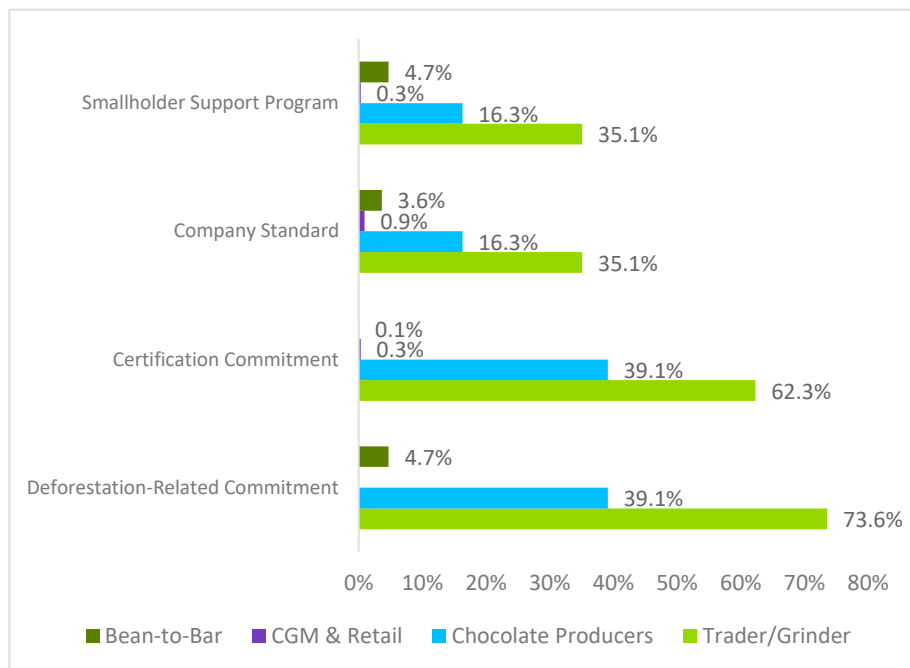
Graph 1. Percent of annual global cocoa production per supply chain segment represented in this analysis (Source: Climate Focus)



3.2.1 Commitments

Companies across the cocoa supply chain are making deforestation-related commitments for a multitude of reasons including declining productivity, environmental degradation and forest encroachment, and strategic and operational concerns about the security of a long-term cocoa supply. Below are the details of the 19 companies that shared information on their commitments, and this includes bean-to-bar companies, chocolate producers, trader/grinders, and three companies in consumer goods and retail.

Graph 2. Percent of global cocoa production that is impacted by different commitment types per supply chain segment (Source: Climate Focus)



In total, six **trader/grinder cocoa** companies that were assessed source 89% of annual global cocoa production. Overall, four companies — sourcing 73% of global production — have made deforestation-related commitments with one of them (sourcing 24%) committed to 100% sustainable sourcing by 2020 based on company-adopted principles and certification. Overall, three of the companies with commitments use certification, and they source 62% of annual cocoa production. One trader/grinder (sourcing 23%) is committed to zero deforestation, and two companies, together procuring 35% of global cocoa, are using an internal standard or program focused on smallholder support to fulfill their deforestation-related commitment.

Out of the five **bean-to-bar companies** evaluated, three of them sourcing 4.7% of annual global cocoa production have made deforestation-related commitments. Of the remaining two companies, one is developing a cocoa deforestation commitment while the other does not have deforestation on its agenda. Of the three companies with commitments, one is using certification to fulfill its commitment while the other two are using internal standards and smallholder support programs, respectively.

The five **chocolate producers** evaluated source 39% of annual cocoa production, and all of them have made deforestation-related commitments for cocoa either explicitly or have committed to source 100% sustainably certified cocoa by 2020. All five companies are using certification as at least part of fulfilling their commitment. One company — sourcing 10% of annual cocoa production — is committed to zero deforestation, and another

company (also sourcing 10%) is committed to the preservation of high conservation value and high carbon stock forests. Furthermore, two companies (16% annual production) are using internal standards and are focused on delivering smallholder support.

The remaining three companies are **consumer goods manufacturers and retailers** together source less than 1% of annual global cocoa production. None of them have made deforestation-related commitments for cocoa, and two of them have their own internal sustainability standards that utilize certification and investments in smallholder support programs.

Company motivation for deforestation-related commitments

Cocoa has been identified as a major driver of deforestation in West Africa which has led to degradation of soils, water insecurity, shifts in rainfall, and crop failures due to droughts and loss of soil fertility and biodiversity. The compounding effect of deforestation leading to low productivity creates a need for more expansion into forests to fill productivity gaps. This phenomenon is further compounded by farmers' limited access to agronomic resources. These issues create a threat to cocoa farmers and companies that rely on a sustainable supply of cocoa.

Deforestation-related commitments in the cocoa supply chain are closely linked to declining productivity in current cocoa operations. The concern for declining cocoa productivity and the likely continued incursion into forests and protected areas is the main reason why many companies are making commitments to combat deforestation by improving productivity. Without resolving these issues companies are concerned about being exposed to several risks including illegally produced cocoa entering their supply chain, the degradation of ecosystem services that support the long-term viability of cocoa production regions, and the fact that continued deforestation only fuels climate change that will have a deleterious and likely irreversible effect on cocoa productivity.

Companies are also committing to provide better access to agricultural inputs to help address the cocoa productivity gaps and inefficient land use that puts pressure on forests. Their primary motivation is a desire to efficiently source high-quality cocoa. This desire is paired with the motivation to address productivity by safeguarding and increasing ecosystem services from trees and forests across the landscape thereby securing a steady supply of cocoa. Also, because these services are provided across a larger landscape some companies are committing to a landscape governance approach for implementing their commitments and are looking to spur on better landscape governance overall to combat deforestation and evolve into a policy framework beyond their own operations.

Company efforts to combat forest degradation from cocoa production include specific concerns about encroachment on protected forests and high biodiversity areas that are important to preserve for conservation values, and they provide valuable ecosystem services. Companies are also considering their reputations and the strategic value that comes from committing to take part in protecting the remaining high conservation value forests in heavily deforested countries.

The cocoa sector has strategic reasons and concerns that motivate involvement in deforestation-related commitments. There are companies with track records of working in deforestation issues across other commodities and now recognize that excluding cocoa from those efforts is no longer viable. Others have been involved in cocoa certification schemes for reasons that do not explicitly address deforestation, but are now including forest exclusion criteria as a reason for continuing or increasing their uptake of certified cocoa. Also, companies that rely on certification or want to increase their supply of certified cocoa know that farmers encroaching into protected areas or otherwise breaking forest protection laws in other areas will be excluded from certification programs.

All the major cocoa sourcing and producing companies are heavily dependent and thereby invested in the cocoa agricultural systems in West Africa where the majority is produced. It is in their long-term financial interest to secure the integrity and sustainability of this concentrated industry. It is posited that clearing forests to plant cocoa is not an economically wise decision as is threatening the continued productivity of these tree crops by disrupting the climate and the many ecosystem services the crop relies on.

Other companies find motivation by fulfilling their own corporate social responsibility principles either because they want to move into the niche market for high value chocolate products or because they have received direct pressure from NGO campaigns. Some see a deforestation-related commitment as a pre-emptive strategy to avoid NGO campaigns, and others are responding to consumer preference for sustainable products or wish to enter what they determine to be a niche market for sustainable chocolate products.

Overall, many companies are concerned about the viable future for cocoa in West Africa requiring transformational change in land and forest management and current cocoa production practices. Their motivation is also tied to productivity and environmental degradation that threatens the security of cocoa production from runaway climate change. Climate was one of the driving factors for the cocoa frontier shift in 20th century with farmers moving from dry to wet areas of West African countries. This shift replaced forest with farm land further drying the climate in what is now recognized as a positive feedback cycle. The concern by companies, NGOs and development partners is that the present and future climate will continue to push cocoa farmers into wetter forest frontiers in the Congo Basin and the last forest reserves in West Africa. Analysis supports this showing that climate, drought and the perceived availability of forest land for planting are the main drivers for shifting cocoa production into forest frontiers.⁴⁷

The sheer size of the problem means all supply chain actors need to be involved and that is why many of these companies feel responsible to do their part.

⁴⁷ Ruf et al. (2015). Climate change, cocoa migrations and deforestation in West Africa: What does the past tell us about the future? Sustainability Science, Vol 10, Issue 1, pp 101-111. <https://link.springer.com/article/10.1007/s11625-014-0282-4>

Reasons some companies are not adopting targets

Companies that have not made a deforestation-related commitment or targets for cocoa exist across a spectrum from those in the process of defining a company policy to those who do not have deforestation on their policy agenda. There are companies waiting for their clients to make deforestation a priority while still recognizing internally that addressing deforestation is important. Also, some in this situation would rather incorporate deforestation avoidance protocols into their general operations than have specific targets. Instead, these cocoa trading companies would rather work to satisfy their clients' targets. These same companies also don't see a need for making commitments or adopting targets and instead wish to pursue a general operational policy that forest clearance in cocoa landscapes is to be avoided.

There are companies that are still in the process of developing policy commitments and targets either because they are new to direct sourcing of cocoa or because they are assessing their options in a landscape of converging programs and policies. Then there are those companies that do not have deforestation on their policy agenda, or some companies that are still unclear about where and what actions they could take.

Future plans to address deforestation from cocoa production

When companies describe their future plans for addressing deforestation in cocoa they speak about a number of interventions and processes they will be pursuing. The training of farmers around avoiding deforestation will continue, and many will frame this intervention around productivity through intensification and cocoa tree rehabilitation or replanting. Companies plan to increase forest trees on farm at scale, promote agroforestry systems, and push for the preservation of remaining forests.

Box 4. Case Study: Touton Climate Smart Cocoa

As part of **Ghana Cocoa Forest REDD+ Program**, which aims at producing deforestation-free and sustainable cocoa within the High Forest Zones, the Forestry Commission of Ghana and Touton SA partnered for the period 2016-2021 for successful implementation of Climate Smart Cocoa Project.⁴⁸ Through this initiative, Touton SA is developing a Landscape Project in Western and Brong Ahafo regions covering a total area of 744,489 ha, out of which 218,400 ha is gazetted forests.⁴⁹

The objective of the project is to improve livelihoods through yield increase and additional income sources, reduce greenhouse gas emissions driven by unsustainable agricultural practices, enhance carbon stocks through integration of desirable shade trees in cocoa farming systems, demonstrate importance of community land-use planning in cocoa Smart Agriculture, promote biodiversity and ecological integrity through awareness creation for environmental stewardship in target communities and develop a financially sustainable incentive mechanism for cocoa-forest landscape governance.

Touton SA on its part works on the ground to demonstrate the importance of community land use planning in cocoa smart agriculture; promote biodiversity

⁴⁸ Forestry Commission of Ghana (2016). Forestry Commission and Touton Sign MOU. <http://fcghana.org/news.php?news=94>

⁴⁹ Touton (2016). Touton Climate Smart Cocoa Press Release. <http://www.fcghana.org/userfiles/files/Publications/Touton%20Press%20Release%20-%20Climate%20Smart%20Cocoa.pdf>

and ecological integrity through awareness creation on environmental stewardship in agreed communities; improve livelihoods through yield increase while enhancing carbon stocks; and develop a financially sustainable incentive mechanism for cocoa-landscape governance with the aim of co-developing a cocoa landscape standard.

Companies are also engaging in deforestation risk assessments and mapping, facilitated by NGO partners. The purpose is to help inform plans and appropriate mitigation actions for both programmatic and procurement actions and policy influencing in-country. The plan for these risk assessments is to better measure progress and impact of deforestation reduction activities and provide transparent progress reports to the public. Moreover, many companies are in the process of mapping all of the farmers they source from. Some companies plan to use this information for internal monitoring of deforestation, and others indicated willingness to share data with governments in ways that would help with enforcement of forest protection laws.

Companies will continue to promote certification as a means to verify the sustainability of their cocoa product. In addition, companies plan to intensify contact with cocoa authorities and other government bodies to continue raising deforestation in discussions on cocoa production. The aim of this increased engagement is to increase public-private cooperation on deforestation in cocoa production. Some companies are looking to involve the national government with their company standards to facilitate the creation and recognition of a landscape standard that goes beyond certification and will lead to verified emissions reductions. As part of these efforts plans exist to develop a platform to implement landscape monitoring and emissions accounting to demonstrate impact of company actions

There are also plans to establish a group of partners to engage farmers, their communities and leaders, and develop integrated solutions through a landscape approach to confront deforestation, climate change, and declining yields. This includes introducing extension service hubs in deforestation risk areas that will professionalize farmers, grant access to inputs, and help rehabilitate cocoa farms leading to more intensification and productivity. In addition, extension services can help connect farmers to banks, show them how to achieve economic and crop diversification, and serve as connection points for stakeholders to create and implement a landscape approach and action plan.

3.2.2 Implementation

Companies involved in this analysis are implementing their deforestation-related commitments via certification, internal standards, and/or smallholder support programs. Also, some are using procurement policies with their suppliers to implement these policies throughout their supply chain. A small subset of companies are more advanced in implementation, and they have been combining farm level mapping with deforestation risk hotspots as part of their monitoring. Companies that disclosed information on compliance also included updates on whether their subsidiaries and/or suppliers are in compliance with their deforestation-related policies, whether or not they disclose information on progress toward

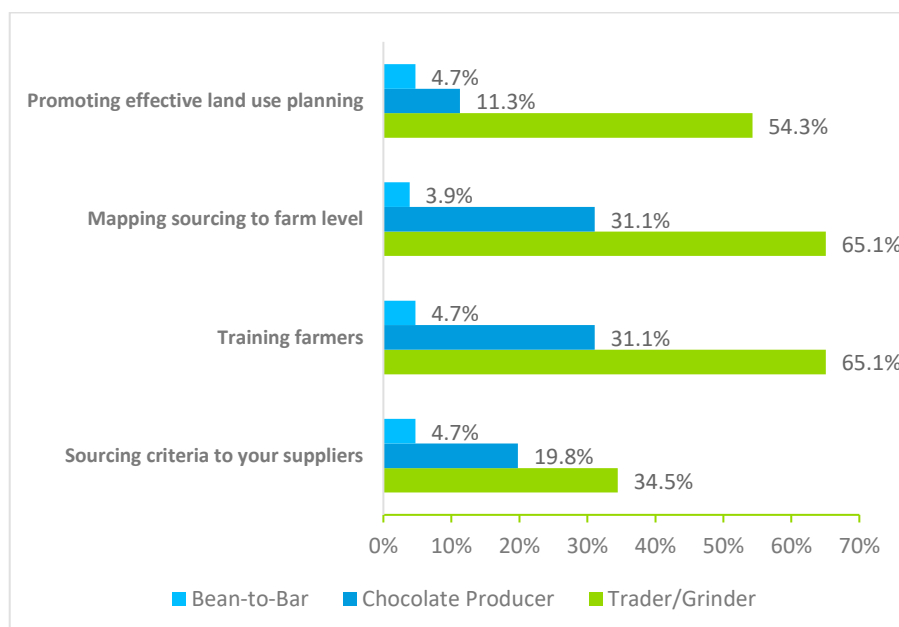
full compliance, and how they're implementing policies with farmer training, mapping, and land use planning. Companies also indicated their progress on monitoring. This includes whether their systems cover suppliers and subsidiaries, the frequency of monitoring, what limitations they have observed, and if their monitoring detects deforestation.

Across supply chain segments 13 companies that procure, produce, or sell cocoa products equivalent to 100% of annual global cocoa production provided information on how they implement their deforestation-related commitments. Of the five trader/grinders assessed, representing 65% of global cocoa production, two companies (34% annual cocoa production) define procurement and sourcing criteria for their suppliers.

Two of the five trader/grinders representing 39% of cocoa production reported compliance information including that 22-30% of their supply was certified as they work toward 100%. One company did not know the percent compliance of all their suppliers, and the other is the sole actor in its supply chain. In addition, three of the trader/grinders sourcing 43% global production provided monitoring information. Two companies sourcing 27.7% global cocoa only monitor compliance in one or a few specific countries. The other company sourcing 15% global cocoa has monitoring across its entire cocoa supply regardless of geography. The major limitation identified for monitoring was the scope of work for covering all the farms. While the smaller company at 4.5% global cocoa did not monitor for deforestation, the other two larger companies are utilizing deforestation baseline assessments and GPS polygon farm mapping for their monitoring.

All five trader/grinder companies conduct farmer training and are deploying mapping down to farm level. While all companies are mapping to farm level they are at various stages of implementation, and some companies are only mapping to farm level in certain origin countries or through specific sustainability programs. All but one of the trader/grinders is also promoting effective land use planning with local and/or national authorities to enable successful implementation of their deforestation-related commitments.

Graph 3. Percent of global cocoa production that is impacted by different implementation activities per supply chain segment (Source: Climate Focus)



Information from three chocolate producers that source 30% of annual global cocoa production shows that they are all implementing their commitments via farmer training, and they are all in the process of mapping their sourcing down to the farm level. However, only one company (sourcing 11% of global cocoa) is promoting land-use planning, and two of the companies (collectively sourcing 20% of global cocoa) are using sourcing criteria for their suppliers to implement their commitments. Those involved in promoting land-use planning are working in community landscapes in an inclusive process whereby communities are deciding where to keep or expand cocoa production and where to reforest. The company is helping the community engage with the Forestry Commission on reforestation plans, selecting the right on-farm trees and agroforestry systems. Companies promoting land-use planning can also be involved at a more macro-landscape level engaging with subnational governments on sustainable development captured in land-use planning decisions that would safeguard remaining forests.

The five chocolate producers surveyed that utilize 39% of global cocoa provided little information on compliance. One company sourcing 10% of global cocoa and is committed to 100% certification reported that 35% of its cocoa is certified which reflects the level of compliance from its suppliers. The company is committed to publicly disclosing information on its progress going forward. This one company also provided monitoring information where it relies on certification for monitoring, which means 65% of its supply is not necessarily being monitored for sustainability compliance, and it also relies on certification criteria for deforestation monitoring.

Of five bean-to-bar companies whose annual cocoa bean sourcing ranges from 0.1% to just under 4% of annual global cocoa production, the largest company is using all of the implementation tools described including supplier sourcing criteria, farmer training, mapping to farm level, and promoting effective land use planning with local and national governments. All but one of the smaller bean-to-bar companies use sourcing criteria and farmer training as part of their deforestation-related commitment implementation. Two of the smaller companies sourcing just over 1% of annual global cocoa production are also promoting land-use planning and two of them are also mapping to farm level.

The bean-to-bar companies assessed here are relatively small in terms of global cocoa production. One company sourcing 0.1% global cocoa reported that 99% of its supply is certified and 80% of its subsidiaries/suppliers are in full compliance with its deforestation-related policies. Another company sourcing 1% global cocoa reported that 95% of its subsidiaries and suppliers are fully compliant. Meanwhile, the larger bean-to-bar company in the group sourcing 3.6% global cocoa reported that 33% of its subsidiaries and suppliers are in compliance with their policies.

Three of the bean-to-bar companies have a monitoring system that covers all of their suppliers and for some in multiple countries. All three conduct annual monitoring, and find the major limitation to be a lack of human resources and the commitment from their suppliers. Only one of them, the larger company sourcing 3.6% global cocoa, has a monitoring system to detect deforestation where they use GPS polygons of their farmers and combine that with the mapping efforts in the REDD+ pilot areas they operate within.

The three consumer goods and retail companies did not have any commitments and therefore no information to share on implementation in terms of compliance or monitoring. One consumer goods company that sources 0.3% of global cocoa is committed to responsible sourcing and is using a customized program with a trader/grinder to source cocoa that meets their customers' narrow interests and also satisfy their CSR principles.

Companies use certification schemes or their own tools to trace cocoa in the supply chain. However, these cover only a small number of the producers and creates complexity and uncertainty for smallholders given the bureaucracy around multitude schemes and standards. Issues that make tracing and monitoring challenging are particular to each of the exporting countries.

In Côte d'Ivoire, the cocoa sector is managed by the Conseil du Café-Cacao (CCC), and most cocoa procurement takes place through the unorganized sector which involves many intermediaries. There are cooperatives who are involved in certification schemes and sustainability programs of companies but they form a small part cocoa market. There is also a lack of stability in the supply chain as farmers and cooperatives undertake transactions based on best offer at the time. This makes traceability and transparency difficult. Some of the CCC's goals include developing a sustainable cocoa economy through better organization of producers and improved productivity, setting up a guaranteed minimum price, and strengthening governance and transparency.⁵⁰

In Ghana on the other hand the Ghana Cocoa Marketing Board (COCOBOD) has a multi-faceted role in the cocoa sector. It controls many parts of the supply chain; sets the prices, controls the quality, tests and distributes inputs, does research and provides extension, is involved in buying and processing part of the cocoa, and they are the sole exporter of cocoa. The quality of cocoa and information of farmers are recorded by licensed buyers at the farm gate and records are kept at all levels of supply chain.

Barriers to implementation and company suggestions to overcome them

The most important issues that companies identified in addressing deforestation in cocoa production overall, their own operational landscape, and within their own company's approach include: **land tenure, agricultural intensification, deforestation awareness in local populations, and revenue diversification.** Only a few companies highlighted research and development on climate smart cocoa, buffer zones, and payment for ecosystem services as key issues. A few companies flagged governments and their governance capacity and regulatory frameworks as an important issue for addressing deforestation in cocoa overall. Others also mentioned smallholders lack of ability to comply with sustainability policies, a lack of market access, and limited technology and traceability systems for cocoa-driven deforestation.

For companies with commitments that include tree-on-farm and agroforestry systems there is a lack of knowledge to inform

⁵⁰ Conseil du Café-Cacao (2011). Status and objectives of the Coffee-Cocoa Council. http://www.conseilcafecacao.ci/index.php?option=com_content&view=article&id=112&Itemid=186

practitioners on the optimum mix of trees on farm to assist both value creation and ecosystem services. One specific knowledge barrier for trees is knowing how to improve soil fertility. In addition, there is a knowledge gap on optimum agroforestry systems for deployment in company and NGO programs. Sustainable practitioners need to know which species and tree density will yield the best results for their landscape, and the availability status for these plant materials. The general misunderstandings extend to the difference between high-diversity agroforestry and intensified/high productivity agroforestry, and the cocoa community needs to better define the purpose of different agroforestry systems and what is best for dual or single purposes. There is also concern that some agroforestry systems could spread disease and pests, but more research is necessary. Also, within some companies there is a lack of non-cocoa tree knowledge and a lack of ability to market those benefits to farmers or others who could harvest those trees or their non-timber forest products. The agroforestry products also have to have proper market linkages, and their absence is another barrier to implementing these practices.

Beyond companies, **there is a knowledge barrier with farmers who still see full sun plantations as more efficient than agroforestry systems.** Part of this is linked to a need for higher technical knowledge among farmers who do not see benefits due to poor implementation. Likewise, there needs to be more investment in proper agroforestry implementation, but the way agroforestry is being spread across the landscape generates costs for industry, occupies larger land surfaces than necessary (land sparing versus land sharing) and they are yet to determine the proper value to this action.

There exist important data gaps to fill for companies to better implement and monitor their policies and programs. Companies mentioned the need for updated forest maps from the government and clear communication on what maps are to be officially used for companies to transpose their own GPS farm maps onto for traceability and monitoring, and for company auditors to use for verification in the field. Companies need this information and improved satellite imagery for landscape level deforestation monitoring to assess risk and policy effectiveness. Access to universally agreed maps is also necessary for identifying and avoiding sourcing from farmers that have encroached into gazette forests. Also, companies with climate commitments need accurate maps to assess carbon stock and land use changes that impact their emissions accounting and reporting. These forest and tree cover maps are also important gaps to fill for communities and certification programs to use for tree counting and monitoring for compliance with environmental criteria.

Box 5. Case Study: Mondelēz & Cocoa Life. Production and protection through community-based initiatives

Cocoa Life, a Mondelēz International effort, is active in six countries and has reached over 76,000 farmers in nearly 800 communities. In Ghana, Cocoa Life is working with the United Nations Development Programme (UNDP) Environmental Sustainability and Policy (ESP) project for Cocoa Production in Ghana, the Ghana Cocoa Board (COCOBOD), and cocoa traders to address deforestation and improve sustainable cocoa production.

The deforestation has altered the micro-climates in Ghana's equatorial environment that were once ideal for cocoa production, and now it is difficult to grow profitable cocoa in these degraded areas which in turn leaves smallholders with few options except to expand into the forest. It is this unsustainable dynamic that Cocoa Life is working to address with the help of

ESP. Cocoa life and its partners are working to create the national enabling environment necessary for their smallholders to be successful and sustainable by ensuring that the national REDD+ policies are based off and thereby beneficial for farm-level needs and realities.

To input community-based knowledge into national-level policy like REDD+, Cocoa Life and the UNDP are piloting an approach called Community Resource Management Areas (CREMAs) in 36 communities in Ghana's North cocoa region. CREMAs are a tool for natural resource management and planning that provides communities with resources for community initiatives and helps them protect forest and wildlife within the CREMA. One community initiative is the reintroduction of native shade trees to cocoa farms that serve as both habitats for wildlife and also to restore the cocoa trees' preferred microclimate that was previously lost to deforestation. The UNDP is also assisting farmers that replant trees by helping them register ownership of the trees with the Forestry Commission. This initiative has successfully distributed 787,000 seedlings to 9,600 farmers, and the tree planting efforts have a 95% success rate.^{51 52}

At the same time as trees are being restored to the cocoa farmers' landscape to restore productivity and forest habitat, Cocoa Life and COCOBOD are also training smallholders on more sustainable farming practices through the Cocoa Extension and Advisory Services program. This is accomplished through the work of Community Extension Agents that train farmers in sustainable agricultural practices and provide them with access to quality seedlings, fertilizer and pesticides. Farmers in this program now boast 55% higher production per hectare than the national average

3.2.3 Enabling Environment

The support of governments, financial institutions, and other stakeholders is a critical part of shifting toward deforestation-free sustainable commodities. Criterion 3 assesses current support for deforestation-related commitments and the areas of improvement to better enable sustainable cocoa production. The policy frameworks and sustainable cocoa initiatives in producer countries are described, and barriers to progress identified by the private sector are also considered based on surveys and interviews with companies. There is also a compilation of sustainable cocoa initiatives to consider herein, and this includes those where there is current company involvement and serves as a list of initiatives for companies to consider for future involvement.

It is important to consider what potential partner companies have identified and how public and private partners could provide support for deforestation-related commitments. This includes a description of where companies would like to see more public-private collaboration. A sustainable cocoa sector can also be supported by importing countries, and their potential role and actions are considered in this section. In addition, the financial institutions that invest in soft commodities have a role to play considering their investments can and do contribute to deforestation. Their role and potential corrective actions are also important to consider in the context of sustainable cocoa investments.

⁵¹ Mondelez (2015). At the Paris Climate Summit: Mondelez International Announces Plans to Combat Deforestation. <https://www.cocoalife.org/progress/at-the-paris-climate-summit-mondelez-international-announces-plans-to-combat-deforestation>

⁵² Mondelez (2015). The Call for Well-being, 2015 Progress Report. <http://www.mondelezinternational.com/~media/mondelezcorporate/uploads/downloads/cfwbprogressreport.pdf>

Deforestation-related commitments and initiatives by cocoa-producing countries

Côte d'Ivoire

Policy framework

In 2011 the government of Côte d'Ivoire became a partner country of the UN-REDD Programme and committed to address deforestation in the country. The commitment was later embodied in a Presidential Decree in 2012. This political commitment is also manifested in the country's endorsement of the NYDF and the Ivorian President's commitment to produce "zero-deforestation cocoa" as of 2017 and to reverse the rate of deforestation in the UN Climate Summit in 2014. Côte d'Ivoire's Intended Nationally Determined Contribution (INDC) includes reduction of greenhouse gas emissions from deforestation and forest degradation but it does not specifically mention deforestation from cocoa.

The political commitment is translated into national and sectoral policies, strategies and programs. The National REDD+ Strategy initiated by the Ivorian government, with the support of the Forest Carbon Partnership Facility (FCPF) and UN-REDD, aims among others at promoting zero-deforestation agriculture, sustainable management of forests and protected areas and restoration and reforestation of degraded areas.⁵³ REDD+ issues have also been integrated in other government policies including the National Agriculture Investment Plan, the Forest Law Enforcement, Governance & Trade process and the 2014 Forestry Code.

Furthermore, the cocoa sector approach includes the Public Private Partnership Platform (PPPP) that established by the Conseil Café Cacao (CCC) as a consultation framework with the private sector to address sustainability issues in the coffee and cocoa sector. The PPPP is meant to facilitate dialogue between the Government, industry, civil society and development partners. The platform also has a critical role in securing finance for the sector, and some of the key issues to be addressed include farmer training, certification, pest control, and access to planting material and inputs.

Côte d'Ivoire's Forest Investment Plan focuses on reviving the degraded forest areas in Center and Southwest regions both exploited mainly for cocoa production. The thematic areas of intervention include support to zero-deforestation agriculture by increasing productivity for small farmers and local communities through inter alia improving access to improved seeds and planting materials, organic fertilizer and integrated pest management, crop diversification and agroforestry approaches, agroforestry advisory services, including co-planting techniques, and environment-friendly and intensified growing practices.⁵⁴

Sustainable cocoa initiatives

Although development of Côte d'Ivoire's cocoa sector has been market driven, in the recent years the government plays a key role with the CCC regulating the sector. CCC is mandated to transform cocoa into a more productive and sustainable sector. It has established and leads PPPP

⁵³ Côte d'Ivoire Forest Investment Plan Final Report May 2016 at https://www-cif.climateinvestmentfunds.org/sites/default/files/meeting-documents/fip_16_5_investment_plan_for_Côte_divoire_final.pdf

⁵⁴ Côte d'Ivoire Forest Investment Plan Final Report May 2016

as a national multi-stakeholder platform for dialogue with the private sector and civil society.⁵⁵ However, participation of national industry in PPPP is low and it is viewed as a political governmental initiative not driven by economic incentives.⁵⁶ There are also international platforms in cocoa sector that involve stakeholders from Côte d'Ivoire, for example, CocoaAction, WCF, and International Cocoa Organization.

There is more dialogue and increased public-private partnership and support in cocoa sector but the land tenure is complex and law enforcement is weak given post-conflict political situation the country is in.

⁵⁵ Le Conseil du Café-Cacao (2016). Communication of Coffee-Cocoa Board. At http://www.conseilcafecacao.ci/index.php?option=com_k2&view=item&id=77:coffee-cocoa-board

⁵⁶ Aidenvironment, NewForesight and IIED (2015). Case Study Report: Cocoa in Côte d'Ivoire.

See **Table 5** for some of the main public and private initiatives to make the cocoa sector more sustainable.

Table 5. *Public-private initiatives to make sector more sustainable*

INITIATIVE	ACTORS	BRIEF DESCRIPTION
The Transboundary Tai-Sapo Corridor Project	GRASP/United Nations Environment Programme (UNEP) and the Wild Chimpanzee Foundation (WCF) then taken up by GIZ (German development agency) and KfW (German development bank) as a complement to the GRASP-WCF initiative	The project aims to unite and protect forest fragments by promoting agroforestry for cocoa plantations as well as Payments for Environmental Services to encourage conservation and reforestation activities among local population.
Greening the Cocoa Industry	RA, Global Environment Facility and UNEP	It aims to change production practices in cocoa-producing countries and management procedures in cocoa and chocolate companies to give the industry a more active role in biodiversity conservation while also helping increase incomes for small producers to ensure the sustainable development of the cocoa industry.
Quantity, Quality, Growth" (2QC)	Coffee and Cocoa Council	For the period 2014 – 2023, it aims to secure the revenue of all players in coffee and cocoa sectors and contribute, in particular, to promote the socioeconomic well-being of producers by improving farm productivity through sustainable intensification of the production system in compliance with social and environmental standards.
The African Cocoa Initiative (ACI) Phase 2	Cocoa industry members, USAID and key government institutions in Cameroon, Côte d'Ivoire, Ghana and Nigeria	ACI 2 is the second phase of the African Cocoa Initiative which focused on public-private modals to improve sustainable cocoa production. ACI 2 aims at increasing production and use of quality cocoa planting materials, pesticides and fertilizers with focus on use of new techniques and technology and supporting regulatory bodies, and increasing the provision of financial services in support of cocoa value chain.

Ghana

Policy framework

The government of Ghana has committed to address deforestation in the country. Ghana began developing a national REDD+ strategy in 2008 with the World Bank Group's FCPF to commence REDD+ readiness implementation under which National REDD+ Strategy and supporting mechanisms have been developed and the national policy framework has been revised to align it with REDD+ objectives. The process has benefited from partnership with numerous actors from international donors, civil society, private sector and local communities. The National REDD+ Strategy aims among others to reduce emission from deforestation, preserve forests and transform major agricultural commodities (includes cocoa) into climate smart production system and improving land-use in cocoa growing areas and mitigating cocoa expansion is considered a key intervention.⁵⁷

The Forestry Commission of Ghana in cooperation with the FCPF, developed the Cocoa Forest REDD+ Program to tackle deforestation in the cocoa sector. The Program seeks to significantly reduce emissions due to cocoa farming and other key drivers across humid forest zones in collaboration with private sector, civil society and local communities within a results-based planning and implementation framework. Private sector actors including Olam, Touton, Solidaridad West Africa, Rainforest Alliance, International Union for Conservation of Nature-Netherlands, the Ghana Cocoa Platform, and the Nature Conservation Research Center have shown support and commitment in implementing the Program.⁵⁸ Ghana's Emissions Reduction Program Idea Note is accepted in the pipeline of the FCPF Carbon Fund.

Cocoa as a driver of deforestation is addressed in Ghana's Forest Investment Plan as well. The overall goal of FIP is to address the underlying drivers of deforestation with focus on improving forest management practices to reduce forest degradation in select humid forest zones. Promoting sustainable climate smart cocoa and agricultural farming is among main areas of intervention.⁵⁹

Sustainable cocoa initiatives

The initiatives to improve sustainability in cocoa sector so far have focused on alignment of the sector, improving public sector governance, organizing the production base, increasing productivity and strengthening of demand. Although, the supply-chain is strongly shaped by COCOBOD, efforts from other stakeholders from private sector and civil society play an important role in transforming the sector. COCOBOD is the government-led marketing board for cocoa under Ministry of Finance which manages the cocoa sector.

⁵⁷ Ghana National REDD+ Strategy 2015 at <https://www.forestcarbonpartnership.org/sites/fcp/files/2016/Sep/Ghana%27s%20National%20REDD%2B%20Strategy%20Dec%202015.pdf>

⁵⁸ Ghana ER-PIN, 2014 at <https://www.forestcarbonpartnership.org/sites/fcp/files/2014/February/Ghana%20ER-PIN%20CF9.pdf>

⁵⁹ Ghana Forest Investment Plan (2012). At http://www.fcghana.org/assets/file/Programmes/Forest_Investment_Plan_fip/Ghana%20Draft%20FIP%203-5%20_31_august2012.pdf

Many projects and programs have come about via the private sector and civil society actors with the expressed purpose of advancing sustainable cocoa. However, in the absence of a high-level coordinated approach, they have resulted in scattered initiatives that are unlikely to achieve impact at scale and provide incentives to farmers/producers for transformational change. Although a platform for sector dialogue and coordination exists, not all key stakeholders participate in this platform.⁶⁰

Ghana Cocoa Platform was established as a platform for public-private dialogue and partnership and cooperation among all stakeholders with the objective of boosting sustainable production of cocoa in Ghana. It is supported by UNDP and chaired by COCOBOD with participation from farmers and farmer groups, public and private sector actors. Similarly, CocoaAction — a voluntary and non-competitive industry driven initiative by WCF — aims to boost productivity and community development in Ghana and Côte d'Ivoire.

In addition to improving livelihood of farmers and promoting sustainability, certain projects address deforestation from cocoa production. In Table 6 is a summary of several such ongoing projects.

Table 6. Ghana examples addressing deforestation from cocoa production

PROJECT	ACTORS	BRIEF DESCRIPTION
Full Sun to Shaded Cocoa Agro-forestry Systems	German Federal Ministry of Environment, Nature Conservation, Building and Nuclear Safety and SNV (Netherlands Development Organization)	A more balanced approach to cocoa production and forest protection, while supporting cocoa businesses to implement transparent deforestation-free supply chains in Ghana.
Mainstreaming Climate-smart Agricultural practices in cocoa production in Ghana	Research Program on Climate Change, Agriculture and Food Security (CCAFS), International Centre for Tropical Agriculture and the International Institute of Tropical Agriculture, Rainforest Alliance, Root Capital and the Sustainable Food Lab	The project assesses the climate change exposure of cocoa systems in Ghana by using a transect approach to identify sites with high, medium, and low climate change impacts. Key actors from the Ghanaian cocoa sector are involved in developing locally relevant adaptation strategies, such as the adoption of climate-smart agriculture, through participation in multi-stakeholder platforms.
Climate Cocoa Partnership for REDD+ Preparation	Olam and the Rainforest Alliance	It is aimed to break the link between cocoa production and deforestation and build cocoa production areas mixed with forest lands to become more resilient to moisture and temperature changes due to climate change.

⁶⁰ Aidenvironment, NewForesight and IIED (2015). Cocoa Study Report. <http://sectortransformation.com/wp-content/uploads/2015/03/cocoaghana.pdf>

Democratic Republic of Congo

Policy framework

The existing policy framework of the DRC does not include any cocoa specific policy or strategy. Deforestation due to cocoa cultivation is addressed more broadly by policies addressing deforestation from agricultural expansion. DRC's REDD+ program aims at avoiding forest lost from slash and burn agriculture by restoring abandoned cocoa plantations.⁶¹ DRC's National REDD+ Strategy, which illustrates a vision for green economy, aims to stabilize forest cover on two-thirds of the country's land area by 2030 and maintain it thereafter.⁶²

Sustainable forest management and expansion of forested area is advocated under Forest Code 2002. Furthermore, reducing deforestation and green growth are high-level political commitments reflected in the national Growth and Poverty Reduction Strategy Paper 2011 – 2015 of the DRC. The government has also prioritized incorporating these commitments in country's National Development Plan which is presently being developed.⁶³ They are also reflected in sectoral and cross-sectoral policies and strategies including land tenure reforms, land use planning and REDD+ standards in hydrocarbon and mining sectors which are integrated in the National REDD+ Investment Plan 2015 – 2020.

Sustainable cocoa initiatives

Consistent conflict and political instability has profoundly affected the agriculture sector in the DRC. There is not sufficient data on specific government initiative in cocoa sector. However, slow and steady steps have been taken toward revitalizing the sector including initiatives to improve coffee and cocoa production largely replaced by subsistence farming during the years of conflict.

Small scale and geographically focused interventions by private sector and civil society organizations are slowly growing. In Table 7 is a project with specific mandate to address deforestation in cocoa sector.

Table 7. DRC Project mandated to address deforestation

PROJECT	ACTORS	BRIEF DESCRIPTION
DRC Cocoa Partnership	The Lorna Young Foundation, Original Beans, funded by U.K. Department for International Development	The project aims to establish a holistic model for reforestation activities and cocoa expansion in mid and northern parts of Virunga, adopting a REDD-like approach that uses GIS mapping-informed replanting, farmer enrolment programs, nursery infrastructure and technical support and extension outreach to some 10,000 smallholder farmers using radio/SMS platforms.

⁶¹ DRC Revised ERPDP 2016

⁶² DRC Revised ERPDP 2016

⁶³ DRC Revised ERPDP 2016

Private Sector: Barriers and suggestions for overcoming them

In cocoa producing countries companies have expressed a need for a national strategy for forest protection. Such a strategy would provide an important reference point for companies in the formulation and implementation of their own policies. This can take the form of a national REDD+ strategy, green growth development plan, or similar that is a clear point of engagement and cooperation for the private sector.

In some major cocoa-producing countries companies note a lack of commitment from relevant government administrations to support sustainable agricultural intensification. If a commitment was made, then the expectation is that resources would follow to help maintain or increase production levels on a reduced area. Despite the various efforts to address deforestation, companies still note the lack of a national strategy for forest protection from the government that companies could then cooperate toward and use as a guide for their own policies.

Some companies perceive that origin country governments still lack a strong policy platform that acknowledges the link between cocoa and deforestation. According to private sector actors one obstacle to clear national commitments is the fact that not all parties and vested interests in cocoa-producing countries are fully cognizant of the link between deforestation and cocoa production. To enable action an agreement on the scale of the problem and transparent information on the land-use impact of the cocoa sector is needed. In countries where there is still no national strategy for forest protection then there is no platform for companies to engage with and help achieve the forest protection end goals. Part of devising this strategy also requires a general and agreed upon knowledge on the current drivers of deforestation within cocoa production.

Many companies are concerned about the lack of a clear policy for dealing with the management of cocoa farms and communities illegally established in protected forests. They do not know how to proceed or engage with these farmers, and do not think that resolving this issue is their role. They need the appropriate government bodies to determine how to resolve this issue, and then this enables companies to find their points of engagement for facilitating the solution. This process needs to consider both how to restore the disturbed forest areas and how to assist those cocoa farmers affected to keep them in the cocoa industry. Multiple companies expressed support for a relocation plan for those farmers operating in protected forests, but stressed that it was not their role to provide the solution.

Another barrier for investment is a lack of land and tree tenure in certain cocoa origin countries. Companies do not want to commit to and invest in agroforestry systems if the farmer is not granted ownership and future benefits from land improvements. National and subnational governments need to come together with local leaders, farmers and companies to resolve tenure issues that will promote long-term stewardship of shade trees on cocoa farms.

Some companies are waiting for economic incentives that would help addressing deforestation from cocoa production. To enable commitment and investment in transformational change across cocoa production there

needs to be agreement on where and what type of investment and activities could take place and what types of payments (carbon/REDD/environmental services/certification/tree replanting commitments/unique origin) can be expected. There is a need to align current and expected climate impact science with the appropriate place-specific actions and strategies before companies and governments can move forward. There needs to be a concerted effort to transform actionable research conclusions into sustainable landscape strategies that inform sustainable governance bodies.

Initiatives on cocoa and deforestation, company involvement and partners

There is no shortage of initiatives that seek to address the issue of cocoa and deforestation. There are multi-stakeholder policy and research initiatives organized by NGOs, multi-lateral bodies, research bodies, and government ministries. In **Table 8** are some examples, divided by country, that cocoa companies are either involved in or feel are important for future involvement.

Table 8. *Initiatives on cocoa and deforestation: country and company*

INITIATIVES ON COCOA AND DEFORESTATION BY COUNTRY AND COMPANY INVOLVEMENT		
COTE D'IVOIRE		
PROJECT	PARTNERS	COMPANY INVOLVEMENT
Initiative for Sustainable Landscapes (ISLA)	IDH, partners from Private Sector (Cargill, OLAM; MARS; Barry Callebaut, Cemoi, Ecom, Althelia, Moringa, Livelihood Fund, Mondelez, SIAT, STBC), Government (Ministries of Planning, Environment, Water and Forests and Agriculture and SODEFOR, OIPR, REDD+ Agency and CCC) and others (WB, ICRAF, Ecotierra, TFT, CNRA, UFEM-CI, Solidaridad, AFD, GIZ and UTZ)	Yes
Climate Smart Cocoa Program	WCF & USAID	Yes
Green Commodities Program	UNDP	No
Deforestation research projects	Association ETC Terra	No
Parc Tai	REDD+ initiatives	Yes
Forêt de la Mè	REDD+ initiatives	No
Bianouan	Cacao Ami des Forêt	Yes

GHANA		
PROJECT	PARTNERS	COMPANY INVOLVEMENT
Ghana Cocoa Forest REDD++ Program	Forestry Commission (FC) and Ghana Cocoa Board (COCOBOD)	Yes
Shaded Cocoa Agroforestry System	SNV	Yes
Forest Investment Program (FIP)	Ministry of Lands and Natural Resources, Forest Commission and COCOBOD	Yes
Climate Smart Cocoa Program	WCF & USAID	Yes

CAMEROON		
PROJECT	PARTNERS	COMPANY INVOLVEMENT
Partnership 4 Forests (P4F)	U.K. Department for International Development	No

GLOBAL OR MULTIPLE COUNTRIES		
PROJECT	PARTNER	COMPANY INVOLVEMENT
	World Economic Forum & UNEP Finance	Yes
Climate Smart Cocoa	World Cocoa Foundation & USAID	Yes
P4F	Palladium	Yes
CCAFS	CGIAR	No
FCPF	World Bank Group	Yes
BioCarbon Fund Initiative for Sustainable Forest Landscapes	World Bank Group	Yes

Deforestation-related commitments and actions by cocoa-importing countries

There is a lack of information on deforestation-related commitments from cocoa-importing countries. Therefore, this section lists both the rationale and possible actions that cocoa-importing countries could take with regards to deforestation embedded in imported forest-risk commodities, including cocoa.

While producer countries need to enhance forest protection policies and strengthen forest governance, cocoa-importing countries need to further explore options for putting in place regulatory incentives to reduce deforestation embedded in imported cocoa products. Policy and legal action from importing countries could include the elimination of illegality from imports, adoption of procurement standards, promotion of transparency and disclosure requirements, and leveraging and mainstreaming existing commitments and actions by leading companies.

Importing governments and downstream supply-chain companies created demand for agricultural commodities and indirectly contribute to deforestation. By insisting on legality and sustainability in their import and procurement decisions, importers can help drive change in producing countries. Also, by taking measures to ensure that their markets are free from illegal production, this incentivizes producer country governments to enforce their laws, and it implies importing governments to hold their importers and manufacturers accountable by requiring them to be able to determine the legality of their imports.

Cocoa-importing countries could consider establishing monitoring and disclosure requirements because without reliable information it will be impossible to identify and showcase companies that are progressing and those lagging. Putting in place such requirements has a powerful impact on building awareness and capacity among companies. Consumer countries need to develop requirements and provide affordable solutions for compliance in collaboration with industry, research organizations, and NGO as applicable.

As has been described in previous sections certification is a widely-used tool for those committed to sourcing sustainable cocoa, and importing countries could adopt sustainability standards for public procurement based on certification. The Netherlands made a commitment in 2010 to source 100% sustainable cocoa by 2025. This was done through a Letter of Intent signed as a joint effort of the private sector, civil society and the government.⁶⁴

Public procurement requirements could lead to stronger demand-side action for the entire market. An example of importing countries promoting cooperation on sustainable supply chains was evident in 2015 when Denmark, France, Germany, Netherlands, Norway, and the United Kingdom highlighted sustainable palm oil production and encouraged joint action by the public and private sector in the Amsterdam Declaration on Palm Oil. This declaration could be expanded to cocoa, which is also exposed to the European market.

Deforestation-related commitments and actions by financial institutions

Investment decisions of financial institutions can be important drivers of deforestation and environmental degradation. More importantly, these institutions also hold the potential to support a shift toward sustainable supply chains. The elimination of deforestation from supply chains will require the integration and leveraging of multiple funding sources including rural credit to farmers, incentives from governments and development partners, and financial instruments supporting private sector actors along the supply chain. The smallholder makeup of the global cocoa sector means that an emphasis on rural credit access and building collateral for farmers is a priority action for financial institutions in collaboration with those trying to remove barriers to credit access. Also, the growing prevalence of company-owned sustainable supply chain programs means that resources spent developing financial instruments supporting these efforts would not be misplaced.

⁶⁴ http://www.suedwind-institut.de/fileadmin/fuerSuedwind/Publikationen/2011/Kakaotaegung_3_Marcel_Vernooij_-_Presentation_Sustainable_cocoa_and_The_Netherlands.pdf

Despite increasing NGO pressure, financial institutions continue to lag behind other sectors in adopting policies to eliminate deforestation from their portfolios. Since 2014, Forest 500 has assessed the commitments of 150 financial institutions to address deforestation in their lending and investment activities, and has since found that nearly one-third of investors had no commitment to tackle deforestation in any of their activities.⁶⁵ An initial screening by UNEP and partners in 2015 found that very few of the 30 surveyed financial organizations monitor compliance with deforestation-related policies and that only 13% had developed financial products or services supporting sustainable land use investments. Furthermore, to enable financial institutions to self-assess their exposure to deforestation, UNEP and the Natural Capital Declaration have developed the Soft Commodities Forest-Risk Assessment Tool.⁶⁶

Overall, public banks have a particularly important role in steering rural development. Their ability to pair access to credit with public policy priorities addresses one of the challenges identified by supply-chain companies, namely the prohibitive costs for small-scale commodity producers to becoming certified. An estimated 80% of available smallholder finance comes from public policy banks (state and agricultural development banks). However, credit also matters for larger operations, and public institutions have significant influence to steer behavior via public credit programs.

3.2.4 Impact on Forests

The fourth assessment criterion assesses the effectiveness of companies' and other stakeholders' efforts and whether they translate into measurable reduction in forest loss. An understanding of effectiveness of efforts is essential to improve the approaches and systems that companies use, as well as the support that they receive from governments and other stakeholders. At the same time, it is crucial to target efforts to those places where forests are at risk. This is a key question for cocoa where, in some of the traditional producer countries, much of the suitable areas have already been cleared.

To measure impact, deforestation in specific places needs be traced over time and the supply chain. To systematically assess the impact of deforestation pledges, it is necessary to link places of production and actors along the supply chain to deforestation impacts. Current data and tools cannot yet establish links between action and deforestation precisely or at scale. The challenge is even more pronounced in tracing deforestation from cocoa production as cocoa trees show up as forest in satellite images. Two new tools — Global Forest Watch (GFW) Commodities and Transparency for Sustainable Economies (Trase) — establish complementary platforms to monitor commercial agriculture's overall deforestation impacts over time.

The WRI launched its GFW platform, which uses satellite technology, open data, and crowd sourcing to map and monitor forest use and

⁶⁵ Global Canopy Programme: Forest 500 (<http://forest500.org/>)

⁶⁶ Climate Focus. 2016. Progress on the New York Declaration on Forests: Eliminating Deforestation from the Production of Agricultural Commodities – Goal 2 Assessment Report. Prepared by Climate Focus in cooperation with the NYDF Assessment Coalition with support from the Climate and Land Use Alliance and the Tropical Forest Alliance 2020.

change globally. It includes a GWF-Commodities, which allows for analysis of links between deforestation and specific regions or producer companies. It is built as a dynamic online forest monitoring and alert system that breaks down satellite data into mosaics and overlays it with open-sourced commodity data, such as maps that show where governments have allocated land to specific concessions or companies for agricultural development and maps of commodity production areas released by companies.⁶⁷

Trase is an interactive supply-chain transparency platform that is being developed by a consortium convened by the Stockholm Environment Institute and the Global Canopy Programme. Trase is able to link supply-chain actors to the municipalities of production and their deforestation track records, combining data on individual shipments of commodities between ports and traders or other sources such as sectoral reports and national customs databases. Once actors are linked to places, Trase can link actors to impacts by overlaying the supply-chain information with maps of deforestation provided by third parties.⁶⁸

Box 6. Case Study: Cargill Sustainable Cocoa Initiatives

In addressing sustainability and deforestation in cocoa supply chain, Cargill has projects in CIV, Ghana and Brazil. In a partnership with The Nature Conservancy in Brazil, Cargill is planting trees in cleared forest areas and growing 1,000 ha of cocoa using the forest canopy as shade protection. In CIV and Ghana, Cargill works with 90,000 cocoa farmers in an effort to advance sustainable cocoa farming including teaching new farming techniques for better crop protection and use of fertilizer and supporting nurseries new more resilient seedlings and young cocoa trees are grown and supplied to farmers.

Cargill has also partnered with WRI to develop a landscape approach to evaluating deforestation risks in supply chains. The partnership combines WRI's world maps and analytical tools including satellite technology and Cargill's supply chain insights. A cross-commodity methodology was developed for three supply chains (soybeans in Brazil and Paraguay, palm and cocoa beans globally) to assess forest loss in priority sourcing areas establishing 2014 as a baseline against which Cargill will be able to measure progress toward 2020 and 2030 no-deforestation goal.

Analysis of data from assessments was based around 1,918 separate infrastructure points that Cargill owns, manages, or buys from, and include soy silos, palm oil processing mills, and cocoa collection points across 14 countries. For each point, an estimated sourcing radius (e.g., 30 km, 50 km, or variable) was used to approximate the "draw area" from which that point may collect, and the area within each radius was analyzed for tree cover loss including any within overlapping protected areas. Results indicate that these areas experienced 1.7 million hectares (about 1.4 percent) of tree cover loss in 2014. Of that loss, 47,000 hectares were in protected areas.

⁶⁷ World Resources Institute, Global Forest Watch: <http://www.globalforestwatch.org/>

⁶⁸ Stockholm Environment Institute and Global Canopy Programme, Trase: <https://trase.earth/>

4.

Lessons from Other Commodities

The number of corporate commitments to reduce the deforestation of agricultural commodity supply chains continues to grow. Looking at agricultural commodities in general, more than 400 companies have made over 700 pledges to reduce their impacts on forests and the rights of forest communities. The NYDF 2016 progress assessment has analyzed progress in implementing existing commitments.⁶⁹ Further analysis has been supported by the Tropical Forest Alliance 2020.⁷⁰ In the following we will discuss how lessons from the “big four” can help cocoa actors to implement supply chain commitments.

4.1 Exports and Emerging Markets

Cocoa is almost exclusively an export commodity which is an important contributor to the GDP of West-African export countries. Only a very small percentage of cocoa is processed and consumed in producer countries. This makes the cocoa supply chain sensitive to market demands of importing countries, even more so than in the case of soy or palm.

The majority of the world’s cocoa products are imported by the EU and the US, and these markets have growing sensitivities to sustainable products. Chocolate companies are responding to these sensitivities with their livelihoods and deforestation-related commitments. However, emerging economies in Asia are expected to become cocoa importers in the next several years.⁷¹ This trend is important because the consumer market in Asia has been slower to respond to sustainability concerns with other commodities.

For comparison, less than half of the world’s palm oil flows to European and American markets, with most palm oil going to countries like China, India and Pakistan. The palm oil industry has struggled with this bifurcated market because of market leakage and lacking incentives for producers to adopt sustainable practices.

Generally, incentives through premium payment for sustainable products are lacking. Here cocoa has a clear advantage through the

⁶⁹ www.forestdeclaration.org

⁷⁰ 2017 Annual Report of TFA2020, forthcoming.

⁷¹ Reuters (2015)

existence of a market-segment that is ready to pay for a premium product. Such markets are missing in palm oil, timber or soy. Still large segments of the market are not ready to pay for sustainability. The increasing relevance of emerging economies in importing cocoa where consumers are not willing to pay the premium price will put efforts under even more financial pressure. But even today, this is evident on a smaller scale in existing importing markets where consumer goods companies source only a small amount of certified cocoa products for their organic and premium cocoa products, and while they source cocoa products that supports livelihoods but do not address or avoid deforestation.

Sustainable intensification will be key. In all agricultural commodities that drive deforestation, the growth in demand will have to be satisfied by more and better products from less land. While this is true for palm oil and beef (less so for soy where the yield gap is already very small), it is even more true for cocoa. Due to the unique characteristics of the cocoa industry and its vulnerability to climate change and deforestation, most companies committed to sustainable cocoa production have strong strategic operational reasons that concern the long-term viability of cocoa productivity that make a move toward sustainability and intensification/land sparing necessary.

4.2 Certification and Multi-stakeholder Processes

Certification standards govern an increasing global market share in certain commodities, including coffee (40%), cocoa (22%), and palm oil (22%). Since 2008, standards defined by the RSPO, SAN, and UTZ experienced a significant growth in compliant areas, increasing 30-fold, 9-fold, and 6.5-fold respectively. For many companies, certification is the preferred strategy to implement sustainability commitments. Analysis of deforestation-related commitments confirms that the majority of companies opt to limit procurement to certified products rather than defining their own company product standards.

Certification schemes exert greater influence over production when a large proportion is consumed in environmentally sensitive markets, as is the case for EU and U.S. chocolate markets. Supply-chain efforts are generally more advanced in commodities with widely recognized certification standards and integrated supply chains, which provide easy and accessible options toward sustainability. Progress toward increasing certified production and sourcing has worked well for wood products and palm oil, but less so for soy and beef.

While certification standards in the agriculture sector are a central component of private sector commitments to reduce deforestation and forest degradation, there is little empirical evidence regarding their large-scale and long-term impacts on forests.⁷² A major limitation of certification schemes is their lack of influence over the bottom of the market. Without a functioning regulatory framework, other actors may continue to clear and degrade forests in these areas.

⁷² Steering Committee of the State-of-Knowledge Assessment of Standards and Certification, 2012.

If one of the “big four” agricultural drivers of deforestation can be compared with cocoa, it is palm oil: a highly exported tree crop that is largely produced by smallholder farmers (40% in the case of palm oil).

Like in cocoa, the inclusion of smallholders in sustainability programs for palm oil is an ongoing challenge. In both cases, incentives to stimulate smallholder transition to more sustainable practices are either insufficient or inexistent. The elimination of illegality in the context of weak governance is another shared problem for both commodities.

The inclusion of smallholders in RSPO allows us to draw some lessons for smallholder certification in the cocoa sector. According to RSPO there are over 2.2 million palm oil smallholders producing 30% of the world’s palm oil on 40% of the land used for palm oil cultivation.⁷³ Under RSPO, there are about 166,000 smallholders covering 500,000 ha and producing 1.73 million tons certified sustainable palm oil (CSPO) annually. The total RSPO certified area is about 2.93 million ha (17% smallholders), and altogether produce 11.45 million tons of CSPO annually (~15% smallholders), which is 17% of global palm oil production. Box 7 summarizes RSPO certification components that are relevant for cocoa.

Box 7. RPSO Certification Components Relevant for Cocoa

RSPO members agree every five years, most recently in 2013, to the principles and criteria (P&C) that are applied to their certified plantation and smallholder operations. RSPO is committed to the conservation of primary forests and HCV areas, and its members seek to achieve this through the round-table’s consensus-based P&C 5.2 and 7.3, which form the deforestation-related component of the global guidelines for producing palm oil sustainably.

P&C 5.2 deals with the HCV approach for existing and new plantings, and it states:

The status of rare, threatened or endangered species and other High Conservation Value habitats, if any, that exist in the plantation or that could be affected by plantation or mill management, shall be identified and operations managed to best ensure that they are maintained and/or enhanced.

To adhere to P&C 5.2 RSPO members go through an established HCV process. The process⁷⁴ begins with identifying the presence of the six different types of HCVs by working with a licensed HCV assessor. Once the HCV area(s) are identified the assessor and grower determine how to manage the HCV areas to either maintain or enhance the identified HCVs. Finally, a monitoring regime is established that will determine if HCV management is effective or if adjustments need to be made. Then ongoing monitoring seeks to continually improve the understanding of the HCV status and trends that will inform the HCV management plan for the oil palm operation and are made public via HCV reports.⁷⁵ It is important to note that an HCV standard is not deforestation-free as it allows deforestation of secondary forests. If followed correctly, the HCV standard rules out all development of primary forest areas, and it requires a management plan for other sensitive areas and/or species present.

⁷³ RSPO (2016). Oil palm smallholders: a primer. <http://www.rspo.org/smallholders/news/oil-palm-smallholders-a-primer>

⁷⁴ <https://www.hcvnetwork.org/resources/folder.2006-09-29.6584228415/HCV%20good%20practice%20-%20guidance%20for%20practitioners.pdf>

⁷⁵ <http://www.rspo.org/about/who-we-are/working-groups/biodiversity-high-conservation-values>

The other increasingly important P&C is 7.3 and this is the New Planting Procedure (NPP). This procedure⁷⁶ protects primary forest (defined as never logged) from new or expanded palm oil development. The following are the criteria:

- *New plantings since November 2005 have not replaced primary forest or any area required to maintain or enhance one or more High Conservation Values (HCVs).*
- *New plantings shall be planned and managed to best ensure the HCVs identified are maintained and/or enhanced (see Criterion 5.2).*
- *A comprehensive HCV assessment, including stakeholder consultation, shall be conducted prior to any conversion or new planting. This shall include a land use change analysis to determine changes to the vegetation since November 2005. This analysis shall be used, with proxies, to indicate changes to HCV status.*

The NPP process starts with an HCV assessment that identifies primary forest and HCV areas in the proposed development area. Then an implementation plan is prepared that describes actions adhering to the HCV assessment findings. The completed process and plan are then posted for public comment for 30 days. If no comments are received then land preparation and planting can begin, and if comments are received then the company or grower has to address them until a satisfactory resolution is reached and the plan can be certified. If a resolution cannot be reached, then the matter goes through the RSPO grievance process.⁷⁷

There is an ongoing debate and review for how to best include smallholders in RSPO principles. The most recent example of debate relates to the New Plantings Procedure (NPP), which aims to ensure that new oil palm plantings will not negatively impact primary forest, HCV areas, high carbon stocks (HCS) forests, fragile and marginal soils (peat), or local people's lands. However, smallholder members have asserted that complying with the NPP (established in 2010) is too burdensome and restricts their options for expansion. The RSPO members have asked RSPO to compose a smallholder strategy for NPP compliance.

The palm oil experience shows that there needs to be a strategy and plan in place for how smallholders can comply with a deforestation-related standard taking into consideration limits on mobility, land claims, and availability of non-forested and agriculturally suitable land. The RSPO initially failed to consider these issues and only since submitting a formal resolution in 2015 are the smallholder issues being expeditiously dealt with.⁷⁸

Deforestation-related activities could be coordinated with government action to avoid conflict between private standards and legal requirements. Cocoa could either seek to complement relevant national laws or generate government buy-in for the zero-deforestation approach so that farmers can have certainty about the legality of their development plans. The process for recognizing HCV in national legislation has recently begun in

⁷⁶ <http://www.rsपो.org/files/project/NPWG/RSPO%20Detailed%20Process%20Flow%20for%20New%20Plantings%20Procedures.pdf>

⁷⁷ <http://www.rsपो.org/files/project/NPWG/RSPO%20Detailed%20Process%20Flow%20for%20New%20Plantings%20Procedures.pdf>

⁷⁸ <http://www.rsपो.org/files/pdf/RT3/Proceedings/Session 5 Gary Paoli paper.pdf>

Indonesia and could be a lesson for cocoa-producing countries like Ghana and Côte d'Ivoire that they too can start assessing how they can enable a more harmonious legislative framework that promotes deforestation-free cocoa production going forward.⁷⁹

There is evidence that RSPO certification has done little to reduce or avoid deforestation since most of its certified plantations are on land deforested prior to certification baselines defined by RSPO. It is therefore important that any new cocoa deforestation-free efforts to adequately deal with the conservation of secondary forests and to prioritize certifying new cocoa operations and not just those with old plantings and historical deforestation that would be grandfathered in by strategically placed deforestation baselines. One option would be to supplement or replace HCV with the HCS approach and set clear country-specific carbon thresholds that would protect secondary and young regenerating forests from cocoa development.

In addition, while palm oil has RSPO as the primary palm oil standard, the three main cocoa standards are not aligned on deforestation criteria. UTZ allows secondary forest clearance if there is compensatory reforestation and excludes development of primary forests, Fairtrade disallows development of HCV areas (implicitly primary forests), and RA/SAN doesn't allow any deforestation of natural forest or HCV areas. This misalignment is not adequate for an industry which is concentrated among a small number of companies looking to reduce deforestation meanwhile not having a certification that covers enough of the market to meet all of their deforestation commitment sourcing needs.

Regarding HCV and RSPO, there are several challenges that include a lack of qualified HCV assessors, a lack of RSPO approved certification bodies in certain geographies (e.g., Latin America), and finding suitable methods for conducting biodiversity assessments. Therefore, a zero-deforestation cocoa strategy that will rely on third party assessors will need to ensure that there is an adequate level of local and national capacity for training and hiring assessors for either HCV or HCS, especially if the standard is to be carried out at farm level.

The creation of company-community partnerships provides an opportunity for joint management of HCV areas. There is a high degree of public scrutiny and skepticism that industry is able to conduct credible HCV assessments and commit to HCV management. The challenge remains to demonstrate effective HCV interpretation and implementation in either plantation or in agroforestry settings like cocoa. Through transparent processes and cooperation with communities, companies could show that they are consistently achieving conservation results and within an agreed upon set of metrics. Also, the development of capacity-building programs to strengthen HCV management and monitoring is an opportunity to help the private sector meet their goals and involve communities in their achievement.

Lessons from RSPO show that it would be far better to conduct a regional HCV/HCS assessment that follows a landscape or jurisdictional approach. The sustainable cocoa strategy could avoid HCS/HCV areas altogether by identifying all HCV and HCS areas in cocoa-

⁷⁹ <http://www.inpop.id/en/news/read/12-02-2016-key-ministries-to-refine-high-conservation-value-guidelines-for-legal-recognition-in-indonesia>

producing regions as the first step rather than managing them within proposed development areas. The challenge is to determine who will finance these regional assessments, and even if conducted, this approach does not stop other non-certified farmers or companies from developing those HCV/HCS areas unless HCV/HCS becomes part of national law and cross-sectoral land use planning.⁸⁰

4.3 Landscape and Jurisdictional Approaches and Produce-and-Protect Initiatives

Many governments, including the major cocoa producer countries are in the process of setting up jurisdictional programs in the context of REDD+. In recent years, other complementary approaches have emerged, such as initiatives for jurisdictional commodity certification, governance models (e.g., in Mexico), green-growth compacts (e.g., in East Kalimantan), and produce-protect initiatives for preferential sourcing.

Mainstreaming zero-deforestation production and avoidance of leakage will only be achieved if implementation is done through landscape and jurisdictional level planning and cooperation. Successful reduction of deforestation requires landscape level interventions that combine private sector action along agricultural supply chains with public sector planning and efforts to integrate smallholders.

Initiatives at jurisdictional scale provide a tool across supply chains to consolidate various sustainability efforts, create a platform for public-private partnerships, and allow monitoring and supply chain management at scale. Cooperation at the jurisdictional level enables embedding of private sector commodity commitments within government programs at the jurisdictional scale that strengthen governance and land planning activities. Such programs can be linked with results-based payments for REDD+ and jurisdictional approaches to certification.⁸¹ Most of these initiatives are still at a planning or early stage. Nevertheless, they could provide interesting opportunities for promote sustainable smallholder production of cocoa at scale, by establishing a platform for dialogue and collaboration among business, government and community stakeholders.⁸²

Jurisdictional approaches can be linked to public or private finance. To incentivize and compensate producer countries to make the necessary policy reforms, donor and consumer countries could provide results-based and other finance. Consumer countries could utilize climate finance as part of bilateral mitigation partnerships to give impetus to reforms in forest governance and climate smart agriculture to produce mitigation outcomes.

Public and private finance could be blended in the context of ‘produce & protect agreements’. Under these agreements, communities, government, and companies agree to conserve forests in exchange for loan

⁸⁰ <http://www.rspo.org/files/pdf/RT3/Proceedings/Session%205%20Gary%20Paoli%20paper.pdf>

⁸¹ WWF (2016)

⁸² Climate Focus 2016. NYDF Goal 2 report

finance and technical assistance to increase agricultural productivity. Examples include:

- **Unilever and Marks and Spencer’s produce-and-protect initiative** for preferential sourcing from places with comprehensive climate and forest policies, announced at the Climate Summit in Paris in 2015. Unilever is piloting the approach for palm oil in the district of Kotawaringin Barat, Central Kalimantan, Indonesia. The company has entered a three-year Memorandum of Understanding with the provincial government of Central Kalimantan, the district government of Kotawaringin Barat, and Yayasan Penelitian Inovasi Bumi to support a jurisdictional approach for sourcing sustainable palm oil at village level. The partnership aims to: (1) achieve ISPO and RSPO smallholder certification for one village, (2) map smallholders and help them to obtain land certifications, business licenses and environmental permits in three villages, and (3) create a baseline assessment for a farmer organization in several villages. While the project takes place on a small scale, stating as one of its goals to be “the first certified sustainable village”, it shows potential for scale and systemic change due to its close partnership with the government at village, district and provincial level.⁸³
- **The International Commodities/Jurisdiction Approach** that seeks to provide an international platform to link jurisdictional programs with companies committed to reducing deforestation. To qualify for preferential sourcing, countries or subnational governments need to fulfill global standards for jurisdictional REDD+ programs as well as a set of defined criteria established by the companies. The initiative’s website⁸⁴ aims at providing updated information assessing the jurisdictions performance against the criteria. An expert assessment concluded that programs that sign Emission Reductions Payment Agreements with the FCPF Carbon Fund or are validated under the Verified Carbon Standard Jurisdictional and Nested REDD framework are sufficiently consistent with the criteria established by the companies.
- **IDH’s Production-Protection-Inclusion Fund (working title)**. IDH partners with tropical forest countries, donor countries, private sector and civil society organizations to work on deforestation-free jurisdictions and responsibly produced commodities including palm oil, pulp and paper, beef, soy and cocoa. Within this partnership IDH is incorporating a global Fund that aims to combine political, commercial and financial efforts to promote smallholder productivity and protect forests, peatlands and biodiversity. The Fund — launched in January 2017 — has received seed funding from Norway, but is intended to draw investment from other bilateral and multilateral donors and investors and the private sector. The Fund, the working title of which is Production-Protection-Inclusion Fund, is designed to link production and protection activities through financing, engage smallholders, use jurisdictional eligibility criteria to invest only in jurisdiction with proven deforestation commitments and

⁸³ <https://www.unilever.com/news/news-and-features/2017/We-are-driving-a-new-approach-to-sustainable-palm-oil.html>

⁸⁴ <https://commoditiesjurisdictions.wordpress.com/criteria-and-assessment-process/>

include flexible, long term and below market pricing to leverage commercial investments.^{85 86 87}

4.4 Tracing

There are several initiatives by companies and NGOs in cocoa producer countries to improve transparency and traceability in cocoa supply chain. These include farm data management systems that allow farmers to store their information online which is accessible in real time creating a point of contact and a transparency and traceability platform. Variations of these initiatives are growing as a result of increasing demand by consumers.

In regards to deforestation, however, the efforts are minimal. Efforts are concentrated on improving production and inculcating better agricultural practices to avoid future deforestation and forest degradation. Monitoring and measuring deforestation is challenging given the nature of the sector and supply chain actors.

Assessing deforestation for any commodity supply chain is always challenging. The reasons are many and vary across commodities. Generally, companies find it difficult to develop company-wide monitoring framework given the peculiarity of each supply chain which also makes defining a company-wide baseline and covering all commodities or a complete supply chain challenging. There is also a perceived lack of willingness and little incentive for suppliers for compliance.

For the big four commodities, many companies have traceability systems in place, but few can trace the origin of their products. Some find working with NGOs and think tanks useful to measure their progress while some participate in roundtables and certification schemes. Most companies express a need for a “global and unified traceability system and database”. It is, however, difficult to develop such systems both in terms of its technicality and an agreement among supply chain actors as well as an internal agreement within the company. Such a system also requires advanced technology and good data for each specific commodity to monitor and measure deforestation footprint. At present satellite imagery and data collection from local sources are the general practice which is found expensive especially where smallholders are concerned.

The partnership between Cargill and WRI is a good example which combines WRI’s world maps and analytical tools including satellite technology and Cargill’s supply chain information and insights. A cross-commodity methodology is developed for three supply chains to assess forest loss in priority sourcing areas in soybeans in Brazil and Paraguay, palm and cocoa beans globally establishing 2014 as a baseline against

⁸⁵ IDH Fund. <https://www.idhsustainabletrade.com/news/fund-to-protect-5-million-ha-tropical-forests-and-trigger-16-billion-usd-private-investments-launched-in-davos/>

⁸⁶ Climate Focus 2016. NYDF Goal 2 report; Government of the Kingdom of Norway. Liberia launches public-private cooperation to improve livelihoods and protect forests. [Online] 2016. <https://www.regjeringen.no/en/aktuelt/liberia-launches-public-private-cooperation-to-improve-livelihoods-and-protect-forests/id2480813/>; IDH. Landscapes, Liberia. [Online] <https://www.idhsustainabletrade.com/landscapes/liberia/>; IDH. Personal communication with IDH - the sustainable trade initiative. October 2016.; Government of the Kingdom of Norway. Liberia and Norway launch climate and forest partnership. [Online] 2014. <https://www.regjeringen.no/en/aktuelt/Liberia-and-Norway-launch-climate-and-forest-partnership/id2001145/>

⁸⁷ IDH (2017). A Tropical Forest and Agriculture focused fund. The Fund Brochure. At <https://www.idhsustainabletrade.com/uploaded/2017/01/A-Tropical-Forest-and-Agriculture-focused-fund.pdf>

which Cargill will be able to measure progress toward 2020 and 2030 no-deforestation goal.

Some companies have developed commodity-specific monitoring framework. The Asia Pulp and Paper Group (APP), for instance, developed the Supplier Evaluation and Risk Assessment framework. Under its deforestation-free commitments, APP has committed to support the protection and restoration of degraded forest landscapes in Indonesia. APP implements an assessment of each of its suppliers, starting with an Association Procedure launched in 2014 after consultation with NGOs. The Association Procedure defines a mandatory framework for suppliers assessing compliance, systems to detect violations, and mechanisms to deal with grievances. APP also developed the Responsible Fiber Procurement and Purchasing Policy to ensure that suppliers adhere to responsible forest management. To improve its forest monitoring ability, APP is working to identify higher resolution and near-real-time remote sensing systems to detect forest cover change.

5.

A Vision of Zero-Deforestation Cocoa

Any deforestation-related strategy of the cocoa sector should combine criteria that concretely address cocoa as a driver of deforestation, sustainable intensification, and smallholder support. It is essential that the production is decoupled from deforestation while addressing poverty at the smallholder level. Jointly these solutions formulate the cornerstones of a vision for deforestation-free cocoa. In the following we describe several overarching principles and key strategies that could formulate the cornerstones for a vision of deforestation-free production in the cocoa sector.

5.1 Principles

- **Protection of natural primary and secondary forest.** Companies that commit not to source cocoa associated with the deforestation of natural forest can strengthen their brand and future prospects. Beyond commitment, companies can work to assure that their operations and supply chains (meaning their farmers and suppliers) use practices that do not have negative effects on protected areas and areas with high conservation values.
- **Legality.** For producers and consumers, the elimination of illegality within the cocoa supply chain is a priority in all unilateral and cooperative, private and public, approaches. Legality is a basic requirement for all sustainability initiatives and standards. Legality concerns extend beyond breaches of forest law, and include the need to ensure human rights laws are followed while enforcing forest law. While the main responsibility for improving governance, and enforcing laws rests with producer countries, driving legality is a multi-sectoral effort. Consumer countries can consider legality standards for imported commodities; private supply-chain actors can demand proof of legality from their suppliers; and NGOs can highlight incidents of illegality and hold governments as well as private sector actors accountable across their territories and supply chains.
- **Transparency.** Transparency is the result of openness and communication. It builds systemic trust and creates the basis for accountability around supply chain efforts. It is facilitated by

disclosure, exchange, consolidation, and sharing of information, as well as generation of new relevant data. Companies, policy makers, and advocacy groups will only be able to take measures and target appropriate actors if more is known about who is driving deforestation and where. Transparency is essential to inform governments about where and when deforestation takes place, and private actors about the deforestation impact of their suppliers. It is also invaluable for supply-chain actors and civil society to evaluate the ambition of company commitments. Transparency across supply-chains creates trust and facilitates cooperation between governments and companies. Transparency is also a concern for some operators/governments, and the incentives are not always right. This needs a common strategy.

- **Integration into long-term strategies.** Stakeholders require clear and reliable signals from the public and private sector as a basis for decision-making. Therefore, declarations and commitments need to be cemented in respective long-term strategies. For the public sector this means anchoring policies in long-term development strategies and legal frameworks. For the private sector, efforts that are supported at the highest level will have the greatest success. These efforts can form an integral part of the operating mandates, performance mandates, and incentive structures of respective departments. Long-term strategies are important for the cocoa industry as a whole when considering the long-term impacts of climate change on future cocoa production areas.
- **Operation at scale.** Jurisdictional or landscapes approaches present opportunities to address sustainability through a combination of private supply-chain efforts and public efforts of land-planning and smallholder support that go well beyond project-based efforts. Larger-scale programs allow the management of leakage and the establishment of incentives across a landscape. Such incentives can be linked with results-based payments for REDD+ and jurisdictional approaches to certification.

5.2 Strategies

These principles can be operationalized through a number of key strategies:

Public-private cooperation. Public-private cooperation and alignment provides an important foundation for the collective transformation of supply chains. Challenges are overcome and opportunities are exploited more effectively through a common understanding of needs and priorities, as well as a stronger alliance between stakeholders. This cooperation can be organized via a non-competitive platform where all cocoa sector companies convene to share information, best practices for achieving zero-deforestation cocoa and create collective strategies.

Government ministries, research agencies, and state corporations need to be engaged to create collective strategies that the private sector can both co-design and use as their guide for implementing sustainable cocoa programs in the cocoa sector.

In cooperation with governments, companies could develop forest policy safeguards that are applicable in current and future cocoa production regions and that define where cocoa development can occur depending on the type of forest cover present. This includes also identifying farms inside protected forests and providing a path to legality.

Research needs to be conducted to find agreement on what types of forest cover scenarios could be used for cocoa development while supporting zero-deforestation commitments. To enable companies to achieve zero-deforestation cocoa, governments must commit to zero-deforestation cocoa and take the necessary immediate and long-term actions. These may include updating forest cover and classification maps, enforcing forest laws, and a moratorium on further expansion of cocoa farms.

There also needs to be engagement with these actors on how payment for ecosystem services could be set up for farmers that increase tree-on-farm systems or help grow forest trees in deforested areas. Other incentives also need to be created for cocoa intensification efforts, and especially for those farmers doing so near forest areas instead of encroaching.

The government ministries, their research arms, and forestry companies can also be engaged collectively by the cocoa sector to help produce more and better seedlings, develop sustainable and productive agroforestry systems and assist in their wide-scale implementation.

The public and private sectors have complementary roles to play:

- Producer countries can strengthen compliance and law enforcement. A general push toward stronger legal systems facilitates efforts in the land and forest sectors. The stronger a national governance system is, the easier it will be to implement and enforce a particular law. There is a need for the governments in cocoa production countries to clarify land tenure, tree tenure and land-use and agricultural planning.
- The cocoa industry can support farmers through training and premiums for sustainable zero-deforestation cocoa either through their own programs or as part of certification.
- Chocolate manufacturers and end-users can be engaged more to help create a market for climate-smart and zero-deforestation cocoa to enable large-scale investments in producer countries.
- Cocoa importing countries can help create the incentives to drive increased sustainable cocoa production through financial support and regulations that eliminates illegality from imports.
- NGOs can be engaged with evidence-based lobbying, capacity-building programs and efforts to investigate livelihood alternatives or supplements for cocoa farmers.

Sustainable finance. There is a need for public and private financial support to reinforce the cocoa industry's sustainability initiatives. To harness the power of finance for sustainably intensified production, collective efforts by financial institutions, producer and consumer country governments, and supply chain companies will be required to develop effective financial mechanisms that work for local producers that want to restore or replant their cocoa farms or shift to a cocoa agroforestry system. This can be achieved

through targeted support by consumer country governments in: (i) the design and implementation for jurisdictional approaches, (ii) development and financial commitments to innovative mechanisms that redirect finance to sustainable production (including results-based finance, credit guarantees for sustainably produced commodities, and conditional up-front financing rewarding countries that adopt and implement policy measures and enforcement), and (iii) support for traceability and transparency systems that provide the very foundation for compliance and enforcement.

Emphasis on cocoa farm restoration and regeneration. The ageing cocoa farms in West Africa are one of the reasons for low productivity, and there remains a need to create solutions to finance this regeneration. The restoration of existing under-performing cocoa farms is one strategy for decreasing deforestation from cocoa expansion, but farmers still require incentives to undertake this replanting to compensate for the years before cocoa production will return with the new trees. These incentives may come from the private sector as they consider investments in long-term crop security, from government to meet production goals, from development partners that have climate financing for reducing deforestation, or more likely some combination of all three.

Support sustainable intensification backed by strong safeguards. There are both economic and conservation benefits to closing the productivity gap for smallholders and underperforming cocoa farms. The prospect of increasing yields will motivate farmers to participate in sustainability schemes. Sustainable intensification also helps to align climate and development goals. Sustainable intensification and other sustainability programs could become beneficiaries of climate finance where governments include such programs into their climate strategies. They can become a tool to achieve targets set out in Nationally Determined Contributions as part of the Paris Agreement. Governments could use the landscape approach and implement reforestation via agroforestry to restore a climate resilient cocoa sector as a joint mitigation adaptation effort. This type of effort could be attractive to governments that are looking for investments or areas to channel climate finance to that will both boost economic growth and address climate change issues in-country.

Promote research and data collection aligned with zero-deforestation goals. Stakeholders also need to be able to access to current deforestation data and updated baselines on the role of cocoa and other crops on deforestation. Information on deforestation and HCV areas are essential to allow companies to develop and target sustainability programs. A related data gap is information on cocoa farms inside protected forests boundaries. Without this information, there can be no serious conversation and policy development from appropriate government administrations for how to resolve these infractions within protected areas. Research and research outputs need to be aligned and variables standardized. Datasets need to be put in the public domain and all publications (especially public funded) need to be open access. Also, there is a need to align current and expected climate impact science with the appropriate place-specific actions and strategies before companies and governments can move forward. There needs to be a concerted effort to transform actionable research conclusions into sustainable landscape strategies that inform sustainable governance bodies.

In addition, there is a need to gather, mobilize, showcase and disseminate information available on agroforestry experiments/pilots conducted in West Africa, other cocoa producing regions, and current farmer practices. Collaboration is also needed for economic modeling for existing systems, forest-income substitution, and intensification best practices on marginal non-forest lands. It is imperative that the cocoa sector identify the optimum scenarios for different types of cocoa-agroforestry systems so that they may be deployed where appropriate to address needs like revenue diversification, climate adaptation, and enhancement of ecosystem services. Also, technical experts need to be engaged to scale up industry satellite mapping abilities.

Alignment and harmonization. It is important to continue to increasingly align industry efforts around cocoa and the environment. Principles that guide an industry-wide effort to address deforestation are essential. These principles could be translated in concrete criteria that complement or go beyond existing certification efforts and company programs with a focus on measurable results. To maximize synergies and minimize confusion, company efforts can be coordinated with public efforts to halt deforestation. This effort needs to include a specific strategy and action plan for how smallholders will be able to comply with a zero-deforestation standard while taking into consideration smallholder limitations on mobility, land claims, and availability of non-forested and agriculturally suitable land.

The WCF can continue to lead cocoa sustainability and improve industry alignment, and its CocoaAction program can explicitly address the issue of deforestation and other environmental concerns. This has created a lag in implementation because it has prevented some supply chain actors from using CocoaAction as an interface with other companies and with origin governments on deforestation issues. The next step could be to incorporate deforestation and climate change as new key elements under a specific environmental pillar of CocoaAction to complete the messaging around productivity, community and now environment.

While a global action agenda is important, action in priority countries could be fast-tracked. Deforestation associated with cocoa can be traced to a few countries where the majority of deforestation is concentrated. Targeted action in these countries is particularly important to reduce agro-commodity-driven deforestation. At the same time, companies could be taking pre-emptive and concerted action through a landscape approach in the Congo Basin, Southeast Asia, and the Amazon region to prevent continued deforestation for cocoa that has already occurred in West Africa.

The barriers to zero-deforestation cocoa are different across cocoa production regions. The next step in developing an action framework could be to specify what type of preventative and/or mitigation activities are appropriate for each region to ensure a sustainable future of cocoa landscapes.